futureskills Scotland

FULL REPORT

The skills content of jobs in Scotland and the rest of the UK

A research report produced for Futureskills Scotland by
Professor Andy Dickerson

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SUMMARY

- A number of commentators have noted that, relative to the rest of the UK, Scotland's workforce is relatively skilled – at least as reflected in the qualifications held by its workers. However, in contrast, productivity in Scotland remains below the UK average.
- One potential explanation for this relative under-performance given the strength of the skills base in Scotland is that the skills of the workforce are not being utilised effectively in jobs in Scotland.
- This report presents an analysis of the differences in the skills content of jobs between Scotland and the rest of the UK using data drawn from the 2006 Skills Survey. Using a very wide range of different measures of skills – including broad skills such as qualifications and training, computing skills, and generic skills such as communication and problem-solving – we investigate differences in the skills content of jobs between Scotland and the rest of the UK.
- The results reveal that, on average, jobs in Scotland are characterised by lower levels of skill content than in the rest of the UK across almost all measures of skills that are considered. While many of the differences are small in magnitude, there are some large negative differentials which are statistically robust. For example, respondents in Scotland report significantly lower usage of number skills and literacy skills than in the rest of the UK.
- Most notable is the significantly lower levels of computing skill content in jobs in Scotland. For example, as compared to the average UK worker, respondents in Scotland are:
  - 12% less likely to report that the use of computers is essential in their jobs;
  - 18% less likely to report that that they used computers in a complex or advanced manner; and
  - 13% less likely to say that the internet was important for their job.

These differences are large, and are statistically robust.

- One possible explanation is that jobs in Scotland are somehow different from the rest of the UK and, in particular, Scotland has a disproportionate share of jobs which use lower levels of skills. We therefore investigate whether differences in the industrial and/or occupational composition of jobs in Scotland can account for the overall lower average skills content.
- Our decomposition analysis reveals that this is not the case. Differences in the industrial and occupational composition of employment contribute very little to the observed negative differential in the skills content of jobs between Scotland and the rest of the UK. Rather, it is the lower skill content levels within both industries and occupations in Scotland that account for the overall negative differential. Thus, for example, jobs in Scotland use less computing skills on average not because there are fewer jobs in Scotland which are IT intensive, but because within all jobs, IT is used less intensively than in the rest of the UK.
- The use of computers, and IT more generally, is important for productivity. While we cannot draw causal inferences from the observed patterns, our results do suggest that at least part of the relative productivity gap between Scotland and the rest of the UK could be due to the lower skills content within jobs in Scotland, particularly computing and IT skills.

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1. Introduction

A country's economic prosperity ultimately depends upon employment and productivity, and while contemporary debate has focussed primarily on the skills of the labour force, as exemplified in the *Leitch Review* (Leitch, 2006) for example, clearly the use to which those skills are put is fundamental if their productivity potential is to be actually realised. As stated in the Scottish Government's Skill Strategy *Skills for Scotland* (2007),

> "... adding more skills to the workforce will not secure the full benefit for our economy unless employers and individuals maximise the benefits that they can derive from these skills" (p.13).

Against a background of a higher skills profile – at least as indicated by the qualifications held by the workforce – it has been noted elsewhere (e.g. Leitch, 2006) that productivity in Scotland is somewhat lower than the UK average. A key question is therefore whether this lower productivity is, at least in part, a consequence of the poorer utilisation of skills in Scotland. This research report, commissioned by Futureskills Scotland, investigates differences in the skills content of jobs between Scotland and the other countries of the UK using data drawn from the *Skills at Work* survey (Felstead *et al*, 2007) in order to throw some light on this important issue. In particular, by examining the skills that employees use in their jobs in Scotland and the rest of the UK, it seeks to identify whether there are any important differences in the skills content of jobs and, if so, which skills are used more or less intensively in the different countries of the UK.

This research can also be seen in the wider context of the on-going debate about skills utilisation more broadly defined as the outcome of the way in which managerial skills are coupled with high-performance working practices and organisational form to make the best use of skills in the workforce.

Why might the skills content of jobs differ between Scotland and the rest of the UK? Clearly, while job design is important, so too is the nature of those jobs. Here we are particularly concerned with the importance of employment composition effects – that is, to what extent any differences in skill content between Scotland and the rest of the UK can be explained by the differences in the nature of employment including its industrial and occupational composition. If Scotland has fewer jobs which use high levels of skills ('high skill jobs') than the rest of the UK, then average skills content of jobs in Scotland will be lower due to the nature of the jobs. However, if we take account of the differences in employment composition between Scotland and the rest of the UK, then we can attribute any remaining differences in skills content to differences in the skill intensity of jobs rather than differences in the composition of employment. This is therefore the approach taken in this report. We decompose the skills content differentials between Scotland and the rest of the UK into the share that is attributable to the differences in employment composition – particularly the industrial sector and occupational level of jobs – and the share that is due to the skills intensity holding composition fixed. This decomposition takes the form of a modified shift-share analysis (Dunn, 1960; Esteban, 2000).

The remainder of the report is structured as follows. Section 2 outlines the background and motivates the research by examining employment, skills and productivity differentials between Scotland and the other constituent countries and regions of the UK. Section 3 describes the data to be utilised – the *Skills at Work* survey – and the methodology employed to construct estimates of the levels of skills that employees use in their jobs. Section 4 reports the level and differences in the skills content of jobs in Scotland and the rest of the UK, while section 5 presents the results from the decomposition analysis which separately identifies the composition and pure utilisation effects. Section 6 summarises and presents the conclusions.

2. Background

It is well known that there are significant and persistent differences in economic prosperity and performance between different parts of the UK. Indeed, differences within the UK are greater than between the UK and other countries. The degree of variation between different parts of the UK is large by international standards, especially compared to other EU countries, and the US. Clearly, such differences provide a constraint on the UK's aggregate economic performance.

Figure 1A depicts output per person in the countries and regions of the UK for the latest data available (2006, indexed to UK=100). The measure of output used is Gross Value Added (GVA). Under the ESA95 (European System of Accounts, 1995 revision), the term GVA is used for estimates that were previously known as Gross Domestic Product (GDP) at basic prices. Regional accounts are currently only published by ONS at basic prices, so the figures are referred to as GVA rather than GDP. As can be seen there are considerable differences in regional output per person (GVA per capita), with London some 55% above the UK average and Wales more than 20% below, and the average for England disguising considerable sub-national variation. These differences in regional output per person can arise from regional variations in productivity (output per worker or per hour worked) and/or the number/proportion of people in employment which in turn depends on the participation, dependency and employment rates. However, dividing a region's output by its resident population does not take account of the commuting flows between regions, and this is clearly more important for some regions than for others. For example, in regions where there are large in-commuting flows (so more people work in the region than live there, such as in London), ascribing the output of these commuters to the residents of the region will lead to an over estimate of regional output per head. Thus, labour productivity is preferred to regional output per person as a measure of regional performance, since it measures both output and the employment associated with that output on a comparable basis, namely the location of the workplace.

Labour productivity can be measured as GVA per worker, or preferably (in order to take account of any differences in the structure of employment between regions) as GVA per hour. Figure 1A presents both of these labour productivity measures alongside GVA per capita. As can be seen, regional differences in labour productivity are rather smaller than in GVA per head of population. However, they are still quite substantial – with London some 29% above the UK average and Wales 14% below the UK average for GVA per job, a difference of 43 percentage points. Thus, most of the spatial variation in output per head is also apparent in the variation in output per job, and in output per hour worked (i.e. in both measures of labour productivity), so that much of the variation of output per head between the regions can be attributed to differences in regional labour productivity rather than differences in the proportion of the population in employment or from differences in hours of work between regions. The remaining differences are due to spatial differences in: employment/unemployment rates; commuting rates; and labour force participation rates. A decomposition of the differentials (for 2004) by ONS (2007) reveals that commuting flows are the dominant explanation for the remaining differences, with in-commuting particularly important for London (see also, Swadkin, 2007).

However, by far the most important contribution to the variation in regional GVA per head is the differences in regional productivity, as is evident from Figure 1A.

What might account for some regions having higher labour productivity than others? A number of explanations have been investigated (see, for example, Rice and Venables, 2003; Rice *et al*, 2006; Dickerson, 2005). One candidate explanation is the skills of the workforce. Figure 1B illustrates for the working age population (i.e. males aged 16-64, females aged 16-59), the highest qualification attained for the four countries of the UK. As can be seen, Scotland has the lowest share with no qualifications, and the highest proportion qualified to at least NQF level 3. However, despite this higher skills profile, it is evident from Figure 1A that Scotland's labour productivity is around 5 percentage points below the UK average (on both per job and per hour measures) and hence it is apparent that higher skills – at least as measured by the qualifications held by the workforce – does not necessarily generate higher levels of productivity.

Correlations between some factors which potentially may affect regional productivity and output are shown in Figures 2, 3 and 4. In each figure, the UK average is shown, together with the values for the four countries of the UK. Data for each of the English regions is also shown since it is clear that there is considerable regional variation within England and so the England average is not very informative. Moreover, given its size, the England average will always be close the UK average, while some of the English regions are, in fact, larger than some of the other constituent countries of the UK.

Figures 2A and 2B illustrate the relationship between the qualifications of the workforce and employment. Figure 2A shows that the higher education rate (defined as the proportion of the working age population with qualifications at the HE level or above) and the employment rate are positively correlated, with Scotland having scores on both of these measures above the UK average. Similarly, Figure 2B illustrates that the economic inactivity rate is positively related to the share of the labour force with no qualifications.

Figures 3A and 3B show the relationships between qualifications and labour productivity (measured as GVA per hour). While London is clearly an outlier, there is a positive correlation between productivity and the higher education rate, and a negative correlation between productivity and the no qualification rate. Taken together, this is *prima facie* evidence to suggest that the skills composition of the workforce, at least as measured by its qualification structure, can at least in part account for differences in labour force participation and employment, and also productivity.

Finally, Figure 4 shows the relationship between productivity and the employment rate. Here the picture is more complex, but it is apparent that, in general, these are positively related. Thus it is not the case that high productivity comes at the expense of lower employment, at least at this level of aggregation.

These patterns are confirmed in the decomposition of regional output per person presented in ONS (2007). It is apparent that commuting rates, hours per job, employment rates and labour force participation rates are all positively correlated with regional productivity levels – so that more productive regions would appear to attract more labour market participants (and vice versa). This suggests that understanding regional productivity differences is even more important than the pure magnitude of the differentials would suggest.

The remainder of this research report examines the skills utilised in employment in the different countries of the UK in order to contribute to the understanding of the regional productivity differentials illustrated above.

3. Data and methodology

3.1 Data

The primary data source utilised in this study is the *2006 Skills Survey* as reported in Felstead and Green (2008a, b), and Felstead *et al* (2007). These data are particularly suited to our purposes because of the rich taxonomy of skills used at work that the *Skills Survey* provides, together with the large sample available for Scotland which permits a more robust and disaggregated analysis.

The *Skills Survey* comprises a large representative sample survey of working individuals living in the UK aged 20-65 and was undertaken in 2006-07. Its aim was to gather information on the skills used in work through survey questions directed at the workers themselves. This contrasts to

most other surveys which gather information on skills and skill utilisation which gather this information from employers. A total of 7,787 individuals in the UK were surveyed, including 2,000 respondents being drawn from Scotland. Weights are provided to ensure that any analysis is representative of the UK employed labour force, and these weights are utilised as appropriate in all of the analysis which follows in this report. The *2006 Skills Survey* is the third in a series of very similar surveys dating back to 1997 and 2001, although the earlier *1992 Employment in Britain* survey and the *1986 Social Change and Economic Life Initiative* (SCELI) surveys are also comparable as shown in Felstead *et al* (2007). Further details on the *Skills Survey* methodology and its findings for Scotland can be found in Felstead and Green (2008a, b).

In total, we examine 33 different measures of the skills that individuals use in their jobs. These can be divided into three groups. The first set comprises **broad skill** measures including the qualification level required on entry into jobs, the training time required to do the type of work carried out and the leaning time needed to do the job well. The second set of skills are measures of different types of **computing skills** and their level of sophistication. The third set of skills are other **generic skills** such as communication skills and problem solving skills. Measures of all of these dimensions of skills are obtained directly from the survey respondents' answers to a range of questions in the *Skills Survey*. Details for each set of skills are discussed in the following three sub-sections.

3.1.1 Measures of broad skills

There are three broad skills measures that can be derived using the *Skills Survey*. The first is based on a series of questions relating to the training time required for the particular job of work performed by the survey respondent. The amount of training time required is presumed to reflect the knowledge and skills demanded by the job. Specifically, respondents were asked:

> "Since completing full-time education, have you ever had, or are you currently undertaking, training for the type of work that you currently do?"

If they answered yes, they were then asked:

> "How long, in total, did/will that training last?"

Given the distribution of responses, a training time index was constructed corresponding to:

0 – no training for job;
1 – up to 1 month;
2 – 1 month up to 3 months;
3 – 3 months up to 6 months;
4 – 6 months up to 1 year;
5 – 1 year up to 2 years; and
6 – over 2 years training.

The second broad skill measure which captures the time required to learn to do the job well was constructed in a similar fashion. It is presumed that the amount of time it takes to learn to do the job well is an indicator of the level of skills required in the job, although it is possible that less able individuals might take a longer time to learn how to do a job well. Respondents were asked:

"How long did it take for you, after you first started doing this type of job, to learn to do it well?"

and if they suggested that they were still learning, the supplementary question asked:

"How long do you **think** it will take?"

As with the training time index, the learning time index is based on converting the respondents responses to a numeric scale similar to that used for the training time index above.

The third measure of broad skills is the qualifications required to get the job (as perceived by the individual currently doing that job). Note that this differs from the qualifications that an individual may possess but not necessarily require in order to get the job. It also may not correspond to the qualifications used to screen applicants for the job if it was vacant. The respondents were asked:

"If they were applying today, what qualifications, if any, would someone need to **get** the type of job you have now?"

A range of qualifications were shown and these were subsequently converted to the five major NQF equivalents. The required qualifications index is a numeric measure based on scoring the NQF levels from 0 (for no qualifications required) to 4 (for NQF level 4 or above).

3.1.2 Measures of computing skills

The second set of skills refer to the use of computers or computerised equipment in work. The *Skills Survey* collected information regarding computing skills using four different measures. It first asked respondents:

"Does your own job involve use of computerised or automated equipment?"

with a simple Yes or No response recorded. Secondly, for those answering Yes to the previous question, the questionnaire asked respondents to indicate:

"How important is using a computer, PC or other type of computerised equipment?"

in their job, on a 5-point scale from 'essential' through to 'not at all important'. The top response is used as measure indicating the importance of computer usage. Third, in addition to these two measures recording participation and centrality of computer use, the survey also asked all respondents (who had not said that computers were not at all important) a question regarding the complexity of their computer usage:

"Which of the words ... best describes your use of computers or computerised equipment in your job?

- STRAIGHTFORWARD (for example, using a computer for straightforward routine procedures such as printing out an invoice in a shop)
- MODERATE (for example, using a computer for word-processing and/or spreadsheets or communicating with others by 'e-mail')
- COMPLEX (for example, using a computer for analysing information or design, including use of computer aided design or statistical analysis packages), or
- ADVANCED (for example, using computer syntax and/or formulae for programming)."

If respondents answered 'complex' or 'advanced', this was taken to indicate a sophisticated level of usage.

Finally, respondents were asked about their use of the internet in their job:

> "In your job, how important is using the Internet? This could include an intranet or internal electronic communication system."

with their responses again being recorded from 'essential' to 'not at all important', with 'essential' or 'very important' used to indicate the importance of in the internet.

These four measures of computing thus capture both the breadth and depth with which computers are being used in jobs.

3.1.3 Measures of generic skills

The final set of skills that the *Skills Survey* is able to measure are a board set of generic skills – defined to mean skills that are not sectoral or occupational-specific. The approach taken to devising measures of generic skills from the *Skills Survey* was as follows. First, a total of 40 separate questions were asked of all respondents regarding the importance of a range of activities in their jobs, such as working with a team of people, making speeches or presentations etc. The questions were each prefaced with the statement:

> "In your job, how important is [... job activity]?"

with the job activities including writing reports, working in teams, etc. Responses were recorded on a 5-point scale from 'not at all important' to 'essential' and were then scored using an index from 0 to 4. A preliminary factor analysis was then undertaken across the 35 activities that had been used in the previous skills surveys to group the variables together in a meaningful manner, and 10 factors extracted as capturing sub-sets of the job activities which are closely related. These corresponded to the same ten generic skills measures that had been identified in the previous skills surveys. However, rather than then using the factor scores (as in the analysis undertaken with the previous surveys) simple averages of the activities contributing to each of the factors were computed partly, at least, to aid the interpretation of the indices. Furthermore, four additional job activity questions concerning 'emotional' skills and 'aesthetic' skills that were new

to the 2006 survey combined naturally into two further factors, and were treated similarly. (The final job activity question concerned the use of foreign language, but there were relatively few positive responses and it was not correlated strongly with any other of the job activities.) The 12 generic skills computed in this manner were supplemented by a generic management skill category which averaged across the five further job activity questions only asked of individuals who had indicated that they were in managerial or supervisory roles. These activities concerned: motivating colleagues; keeping control over resources; coaching; developing careers; and strategic decision making. The resulting 13 generic skills are summarised in Box 1.

Box 1: Description of generic skills

Generic skill	Description
1. Literacy skills	Both reading and writing of forms, letters, memos, short and long documents etc.
2. Physical skills	The use of physical strength and/or stamina; skill in using one's hands.
3. Number skills	From basic addition and subtraction etc through to more advanced mathematical and statistical procedures.
4. Technical 'know-how'	Knowing how to use tools, equipment or machinery; knowing about products or services, specialist knowledge and/or skills in using one's hands.
5. Influencing skills	Persuading or influencing others; instructing, training or teaching people; making speeches or presentations; writing long reports, analysing complex problems in-depth and planning the activities of others.
6. Planning skills	Planning activities; organising one's own time and thinking ahead.
7. Client communication	Selling a product or service; counselling or caring for customers or clients; dealing with people; knowing about products or services.
8. Horizontal communication	Working with a team of people; listening carefully to colleagues.
9. Problem-solving skills	Detecting, diagnosing, analysing and resolving problems.
10. Checking skills	Noticing and checking for errors.
11. Aesthetic skills	Looking and sounding the part.
12. Emotional skills	Managing own and handling others' feelings.
13. Management skills	Motivating subordinate staff; controlling resources; coaching, developing careers; strategic decision-making.

Two sets of skills indices were constructed for these 13 generic skills measures. The first set comprises simple averages across the numerical scores assigned to the level of each activity making up each generic skill measure. The second set of skills indices uses a binary indicator for activity levels of either 'essential' or 'very important' and thus when averaged indicates the proportion of jobs for which there is a relatively *high level* of the particular skill being used.

To summarise, in total we consider 33 different dimensions of skills as shown in Box 2.

Box 2: Skill measures

1. Broad skills:
- Training time index
- Learning time index
- Required qualification index

2. Computing skills:
- Uses computerised equipment
- Use of computers is essential
- Complex or advanced computer use
- Use of internet important

3. Generic skills:

(a) Indices	(b) High level utilisation
Literacy skills index	High level literacy skills
Physical skills index	High level physical skills
Number skills index	High level number skills
Technical 'know-how' index	High level technical 'know-how'
Influence skills index	High level influence skills
Planning skills index	High level planning skills
Client communication index	High level client communication
Horizontal communication index	High level horizontal communication
Problem-solving skills index	High level Problem-solving skills
Checking skills index	High level checking skills
Emotional skills index	High level emotional skills
Aesthetic skills index	High level aesthetic skills
Management skills index	High level management skills

3.2 Methodology

The first task of the analysis is to outline the major differences in the skills content of jobs between Scotland and the rest of the UK. The skills used in work is clearly much closer to the concept of skills *demand* than skills supply, and the importance of skills demand is being increasingly recognised by governments (e.g. in Scotland's *Skill Strategy* and in the *Leitch Review*). In all of the comparisons of the skills content of jobs, the statistical significance of the differences are reported so that real differences can be distinguished from those that are attributable to sampling variability.

The second stage of the analysis is to examine by how much and to what extent differences in employment composition may account for differences in the skills content of jobs between Scotland and the rest of the UK. So, as an example, if computing skills are used intensively in the business service sector, and Scotland has a relatively low share of employment in business services as compared to the rest of the UK, then part of the reason that Scotland has jobs with an overall lower level of computing skill content is due to its low employment share in business services. Of course this does not preclude that even within business services in Scotland, computing skill intensity may be relatively low. Thus, this second stage of the analysis presents a formal decomposition analysis of the difference in the skills content of jobs between Scotland and the rest of the UK utilising a modified shift-share analysis. This enables the difference in the use of, e.g. computing skills in country *i* (*i* = Scotland, Wales, England and Northern Ireland) from the UK national average to be decomposed into the contribution that is attributable to differences in the industry mix in country *i* from the national average, and the contribution that can be accounted for by differences in computing skills intensity from the national average within the industries in country *i* (plus a residual interaction term, and which is typically small). This form of decomposition will allow the contribution of employment composition to the differences in the skills content of jobs to be netted out, revealing the pure differences in the skills content of jobs between countries. An outline of the method is presented in Box 3.

Box 3: A shift-share analysis for *skills utilisation*

Following Dunn (1960) and Esteban (2000), let p_i^j be the employment share of industry *j*, *j* = 1,K *J* in country *i*, (*i* = Scotland, England, Wales, Northern Ireland) and let p^j be the employment share of industry *j* for the UK as a whole. Equivalently, let x_i^j be skill use in industry *j* in country *i* and let x^j be skill use in industry *j* for the whole UK.

Then, skill use can be expressed as the employment weighted sum of industry skill use for the whole UK and at individual country level: i.e. $x = \Sigma_j p^j x^j$ and $x^j = \Sigma_j p_i^j x_i^j$ where x is aggregate UK skill use and x_i is skill use in country *i*.

A country's skill differential from the UK average, $\Delta_i = x_i - x$, can then be decomposed into three components: $\Delta_i = x_i - x = \mu_i + \pi_i + \alpha_i$ where $\mu_i = \Sigma_j (p_i^j - p^j) x^j$ is the component attributable to difference in industrial composition (assuming the ***skills utilisation*** matches the UK average); $\pi_i = \Sigma_j p^j (x_i^j - x^j)$ is the contribution to the skill differential that arises from industrial differences in skill utilisation between each country and the national average, assuming the country's industry mix is the same as at the national level; and finally $\alpha_i = \Sigma_j (p_i^j - p^j)(x_i^j - x^j)$ is the residual interaction term and which can be interpreted as the contribution to a country's skill differential that derives from it being specialised, relative to the UK, in the industries in which it has above/below average skill utilisation.

This decomposition using shift-share analysis can be undertaken for each of the dimensions of skills recorded in the *Skills Survey*. While the above description is focussed on the importance of industrial composition in determining differences in the skills content of jobs, a similar decomposition can also be computed across occupational differences in the skills content of jobs. Unfortunately, sample sizes are too small for the decomposition to be undertaken over both industry and occupation simultaneously.

Of course, shift-share analysis is only a descriptive tool – it cannot provide causal explanation for why the differences are observed – whether by country or by sector (or occupation).

4. The skills content of jobs in Scotland and the rest of the UK

Table 1 presents the skill levels in Scotland and for the rest of the UK for each of the 33 dimensions of skills described above. The first three columns present the skill level for Scotland, for the rest of the UK (taking England, Wales and Northern Ireland combined), and the difference between them. The fourth column presents the difference in percentage terms, with the difference measured as the deviation of Scotland from the rest of the UK, such that positive figures indicate greater skills content in jobs in Scotland than in the rest of the UK, and negative figures indicate lower skills content in jobs in Scotland compared to the rest of the UK.

As can be seen, most of the differences are negative, indicating that, on average, Scotland has a lower level of skills content in jobs than the rest of the UK. Of the 33 differences, 23 (70%) are negative indicating lower skills content in jobs in Scotland, and only 10 (30%) are positive. The average difference is -3.8%, suggesting that, on average, workers in Scotland use around 4% less skills in their jobs than their counterparts in the rest of the UK. However, some of the differences for individual dimensions of skills are small in magnitude and may simply be the result of sampling variability. Thus, in order to assess the magnitude of the differences, the final column in Table 1 indicates whether the difference between the skills content of jobs in Scotland and the rest of the UK is statistically significantly different from zero (at the 5% significance level). These significant differences are indicated with an *. In total, 13 of the 33 dimensions are significantly different between Scotland and the rest of the UK, and for these 13 dimensions, the average differential is -8.1%. All but one of the significant differentials (that for the physical skills index) are negative, suggesting that there is indeed a significantly lower level of skills content in jobs in Scotland as compared to the rest of the UK across a broad range of skills.

Figure 5 illustrates the magnitudes of the differences in the skills content of jobs between Scotland and the UK average for all 33 measures of skills. The tendency for these deviations to be negative is apparent and confirms what was noted above in relation to the comparison of Scotland with the rest of the UK. Of course, not all of the differences are statistically significant. Figure 6 illustrates just those differences where the skills content of jobs in Scotland and the UK are statistically significant at the 5% level. As can be seen, there are no significant differences in the three broad skills measures (training time, learning time and required qualifications) between Scotland the UK average. However, computing skill content is significantly lower in Scotland on all four measures which capture participation (uses computerised equipment), centrality (use of computers is essential), complexity (complex or advanced computer use) and communication (use of the internet important). Particularly notable is the magnitude of the difference in complexity of use in Scotland which is 18% lower than the UK average. Felstead and Green (2008b) similarly report that the use of computing skills in Scotland "lags behind that of the rest of Britain" (p.15). Here we have demonstrated that the computing skills differentials are not only large, but are also statistically significant.

Of the significant differences in generic skills, lower level number skills and literacy skills (and correspondingly, although not necessarily) lower high level number skills and high level literacy skills are also apparent.

In conclusion, the analysis of the skills content in jobs across the 33 dimensions of skills considered in the above analysis reveals significantly lower levels of computer skills in jobs in Scotland as compared to the average across the UK. This is coupled with lower levels of number and literacy skills content in Scotland. However, there is little evidence to suggest other systematic differences in terms of broad skills or the other generic skills dimensions.

5. Decomposition of differences in the skills content of jobs

This section considers the underlying contribution to differences in the skills content of jobs between Scotland and the UK average arising from any differences in employment composition. In particular we examine the extent to which differences in the sectoral and occupational distribution of employment in Scotland as compared to the UK average may account for the differences in the skills content of jobs identified in the previous section.

It is certainly the case that there are considerable differences in the skills content of jobs between sectors and occupations. Tables 2a and 2b report the intensity rates for the broad skill measures by 1 digit industry (SIC 1992) and 1 digit occupation (SOC2000) respectively. Note that the industrial classification omits five Industries (namely: fishing; mining and quarrying; electricity, gas and

water supply; private households with employed persons; extra-territorial organisations and bodies) because they had less than 100 sample observations across the whole. Differences in skills across industry appear sensible – education and health have long training and learning times as well as high qualification requirements. Respondents in the construction industry reported the longest learning time. At the other end of the scale, the hotel and restaurant sector has the lowest levels of skills content across all three dimensions of broad skills. Similarly, the observed differences in broad skills by occupation confirm our priors. Training time, learning time and required qualifications are high for professionals, and low for sales and, especially, elementary occupation workers. Skilled trades have long learning times – consistent with the sectoral evidence for construction which dominates this occupational category.

Differences in the intensity of the four measures of computing skills by sector and occupation are reported in Tables 3a and 3b respectively. Computer use across all four measures is highest in financial services and lowest in construction and hotels and restaurants in particular. These patterns are partly reflected in the occupational distribution of computer skills, although the most advanced usage is to be found amongst professionals, as expected, whereas administrative and clerical occupational groups have the greatest penetration.

Tables 4a and 4b present the differences in the intensity of generic skills by industry and occupation. Across all 13 measures of generic skills, there is wide variation by both sector and occupation. General patterns are consistent with more standard measures of skills – such as qualifications – and this gives support to the validity of the measure of generic skills derived from the skills surveys. Similar patterns are apparent in Tables 5a and 5b which summarise the high level generic skills indices by industry and occupation.

When we examine a particular skill by industry, a country may exhibit an aggregate of that skill above the UK national average for two distinct reasons. First, it may not differ much from the UK average for each industry, but the country may be specialised in high skill sectors. Secondly, most or all sectors in the country may have high skill jobs above the UK industrial averages, perhaps reflecting country-specific factors such as differences in infrastructure, physical capital or skills availability. Of course, there may be a combination of these two factors in operation. In order to establish the importance of each factor – sectoral specialisation in high skill sectors or overall high skills jobs in a country – to the aggregate country differential, we can use a modified shift-share analysis to decompose each country's difference from the UK national average into that due to the industry mix of the country and that due to the country-specific utilisation differential. A similar argument can be made with respect to differences in skills by occupation and the occupational composition of employment.

As shown in Box 3, the methodology of shift-share analysis as originally proposed by Dunn (1960) can be extended to the decomposition of aggregate skill differentials between countries. A country's skill differential from the UK national average can thus be decomposed into three separate components:

- a composition component;
- a utilisation component; and
- an interaction component.

These three components then can be added together to yield the overall aggregate country skill differential.

Composition component

The composition component measures the contribution to the country's skill differential that accrues from its specific sectoral or occupational composition, assuming that the overall skills content of jobs in each country is equal to the national average. The composition component is therefore that part of the skills content differential that is the consequence of a country being specialised in the most or least skill-intensive sectors or occupations. Thus the composition component is positive if the country is specialised in high skill sectors or occupations and/or de-specialised in low skill sectors.

Utilisation component

The utilisation component is the contribution to the country's skill differential that arises from sectoral or occupational differences in the skills content of jobs between the country and the UK national average, assuming the country's sectoral and occupational composition matches the national picture. Hence the utilisation component is positive if the skills content of jobs in that country are above average in most or all sectors and occupations – that is, if most or all sectors or occupations are above their national averages in the particular country.

Interaction component

The interaction component is the contribution to the country skill differential that derives from a country being specialised, relative to the national average, in sectors or occupations with jobs which have high or low skill content. This component can be interpreted as an indicator of the specialisation in each country in allocating employment to the sectors or occupations in which it has comparative advantage in skill content. It also measures the covariance between the composition component and utilisation component.

As demonstrated in Box 3, the overall gap between a country's aggregate skill content level and the national average can be additively decomposed into these three components, such that:

country differential	=	composition component	+	utilisation component	+	interaction component

In order to gauge the relative contribution of each component to overall differential, Esteban (2000) suggests computing the relative weight of the variances of each component in the overall variance in differentials. Thus the overall variance in the country differentials can be written as the sum of the variances of each component, plus an additional term capturing the covariances between the components. In addition, we supplement this decomposition by presenting the overall regional differential and its constituent components expressed in percentage terms, so that the relative contribution of each component can be more easily assessed when comparing between different skill measures.

Figure 7 graphically presents the decomposition by industry of the skill differentials for Scotland for all 33 of the skill measures. As can be seen, in general, the contribution of the industrial composition to the overall skill differential from the UK national average is small. While it generally serves to reinforce the utilisation effect, in every case, it represents a rather smaller share than the contribution from the utilisation component. This implies that it is not the industrial composition of employment per se in Scotland that results in the lower skills content of jobs shown in Section 4, but rather it is lower skills content across most or all sectors that results in the lower rate. Figure 8 restricts attention to just the statistically significant differentials identified in Section 4. These confirm the above conclusion that it is the lower skills content of jobs within industries, rather than the industrial composition, that results in Scotland having a significantly lower level of computing skills, literacy and numeracy skills content than the UK average. Table 6 presents the relative contributions of each component – industry composition, utilisation and the interaction – to the overall skill differential, and this serves to confirm the graphical presentation in Figures 7 and 8 that the overall differential in the skills content of jobs between Scotland and the UK average is dominated by the lower skills content in Scotland for most of the dimensions of skills, rather than because of the sectoral composition of employment in Scotland.

Figures 9 and 10 graphically present a similar decomposition but by occupation rather than industrial sector. A similar picture emerges. Most of the differential in the skills content between Scotland and the UK average is due to lower occupational skills content in Scotland, rather than the occupational composition of employment, and this is certainly true for the significantly negative differentials for all four dimensions of computing skills and high level literacy and numeracy skills. Differences in the occupational composition of employment contribute relatively little to the overall differentials – whether significant or not – as shown in Table 7.

Thus, we can conclude that the overall lower skills content of jobs in Scotland does not appear to be due to the sectoral or occupational distribution of employment in Scotland, but is primarily due to the lower skills content, particularly lower computing skill content, within both industrial and occupational groups in Scotland. For those skills which are significantly less utilised in jobs in Scotland, it is the lower skills content within industry and occupation that results in the average skills content being lower in Scotland than the UK average, rather than because of a predominance of employment in sectors or occupations which use low levels of those skills.

In order to gauge the contribution of each component to the overall pattern in differentials across all four countries of the UK, Tables 8 and 9 present the variance contributions of each component to the overall variation in differentials for each skill when decomposed across sectors (Table 8) and occupational groups (Table 9). As can be seen, most of the variation between countries in each skill is due to variation in the utilisation rather than the composition of employment by sector or industry. Thus the patterns observed for Scotland, that the utilisation component dominates the overall differences from the UK average, are common across all four countries of the UK. The summary averages at the bottom of Tables 8 and 9 reveal that the differences in utilisation within sectors and occupations between countries is as large as the overall variation in skills between countries. Thus, it would appear that the utilisation effect dominates in the overall differentials between countries.

6. Summary and conclusions

This report presents an analysis of the differences in the skills content of jobs between Scotland and the other countries in the UK using data drawn from the 2006 Skills Survey. Using a wide range of measures of skills – broad skills, computing skills and generic skills – we investigate differences in the skills content of jobs.

The results reveal that jobs in Scotland are characterised by lower skills content than the UK average across almost all measures of skills considered. However, many of the differences are small in magnitude, and not significantly different from zero. However, there are some large negative differentials which are statistically robust. Most notable in terms of their magnitude is the significantly lower computing skills content in jobs in Scotland. For example, respondents in Scotland were more than 10% less likely to report that the use of computers is essential in their jobs, or that they used computers in a complex or advanced manner, or that the internet was important for their job than the average UK worker. These are large differences.

Coupled with the lower computing skills content in jobs in Scotland, respondents also reported lower use of number skills and literacy skills, both on average, and also for these skills at a high level.

We then turned to investigate whether the lower skills content of jobs in Scotland could be attributed to the sectoral or occupational distribution of jobs in Scotland and, in particular, whether the lower levels of skills content is because Scotland has a disproportionate share of jobs which use lower levels of skills. Our decomposition analysis reveals that this is not the case – whether considered by industry or occupation, it is the lower skills content of jobs within industries and within occupations in Scotland that dominates the negative differential between Scotland and the UK average, rather than because of differences in the sectoral or occupational composition of employment in Scotland.

Computing utilisation, and IT more generally, is important for productivity. Bloom *et al* (2007) have suggested that the acceleration in US productivity in the late 1990s can be attributed to their earlier and more widespread adoption of IT than in the UK and the rest of Europe, coupled with its more effective utilisation through appropriate workplace organisation, which together began to pay dividends in terms of increased productivity. While the utilisation of computing skills has been increasing over time in the UK, Scotland still lags well behind the UK average as shown above. While we cannot draw causal inferences from the observed patterns, the results do suggest that at least part of the relative productivity gap (given its skills base) between Scotland and the UK as noted in Section 2 may be due to the lower skills content within jobs in Scotland, particularly in relation to computing and IT skills.

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Figure 1A: Differences in productivity between the countries and regions of the UK

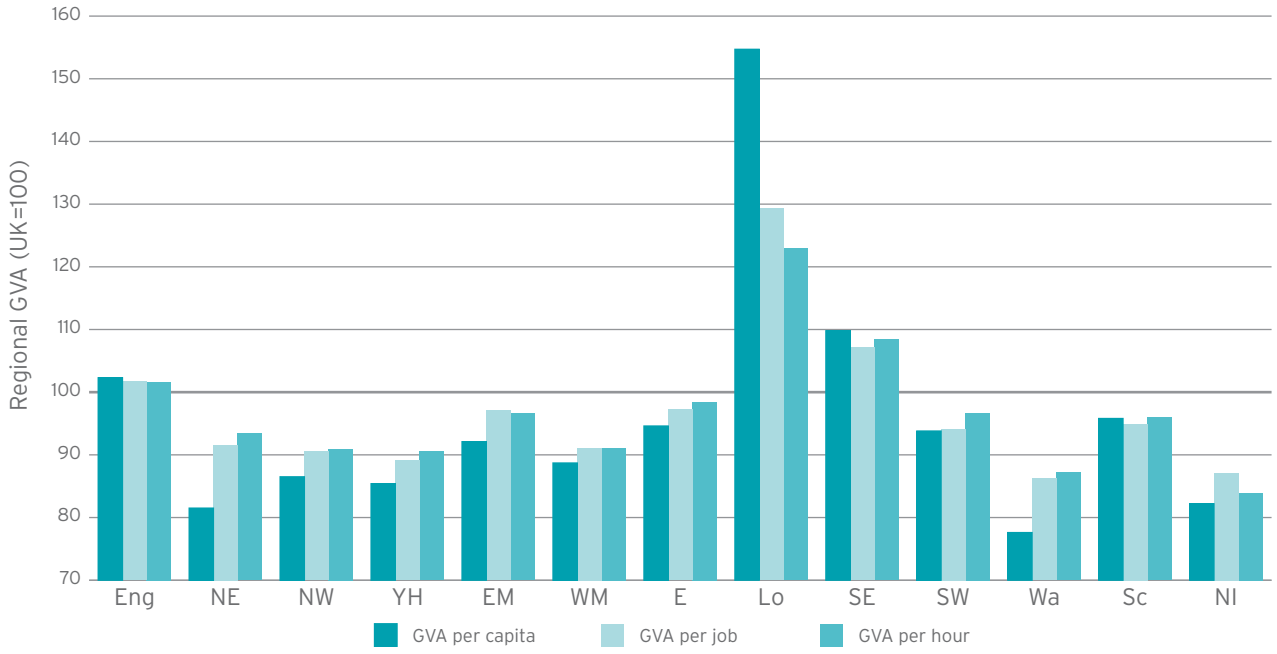
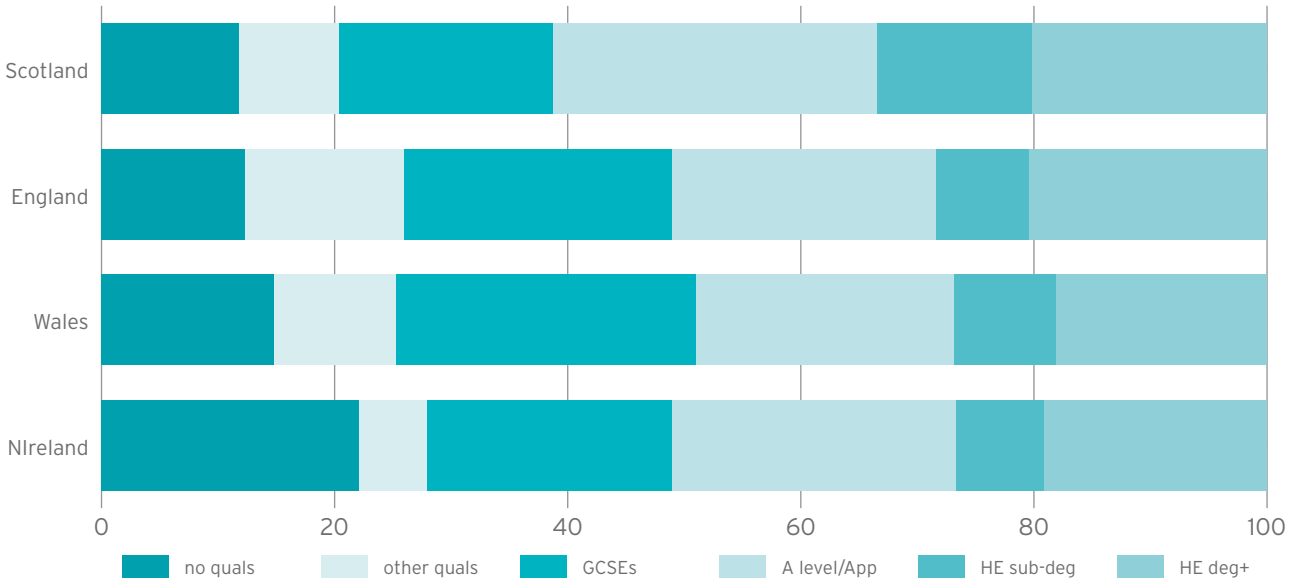


Figure 1B: Differences in highest qualification attained between countries of the UK



[1] **Figure 1A:**
Key: Eng: England; NE: North East; NW: North West; YH: Yorkshire and the Humber; EM: East Midlands; WM: West Midlands; E: East of England; Lo: London; SE: South East; SW: South West; Wa: Wales; Sc: Scotland; NI: Northern Ireland.

Source: ONS *Productivity First Release* 3rd Quarter 2008, 23 December 2008 http://www.statistics.gov.uk/pdfdir/pro1208.pdf Data for 2006 (latest available).

[2] **Figure 1B:**
Source: Labour Force Survey (LFS) 2nd quarter 2008, working age population, highest qualification.

Figure 2A: Spatial employment and HE qualification rates

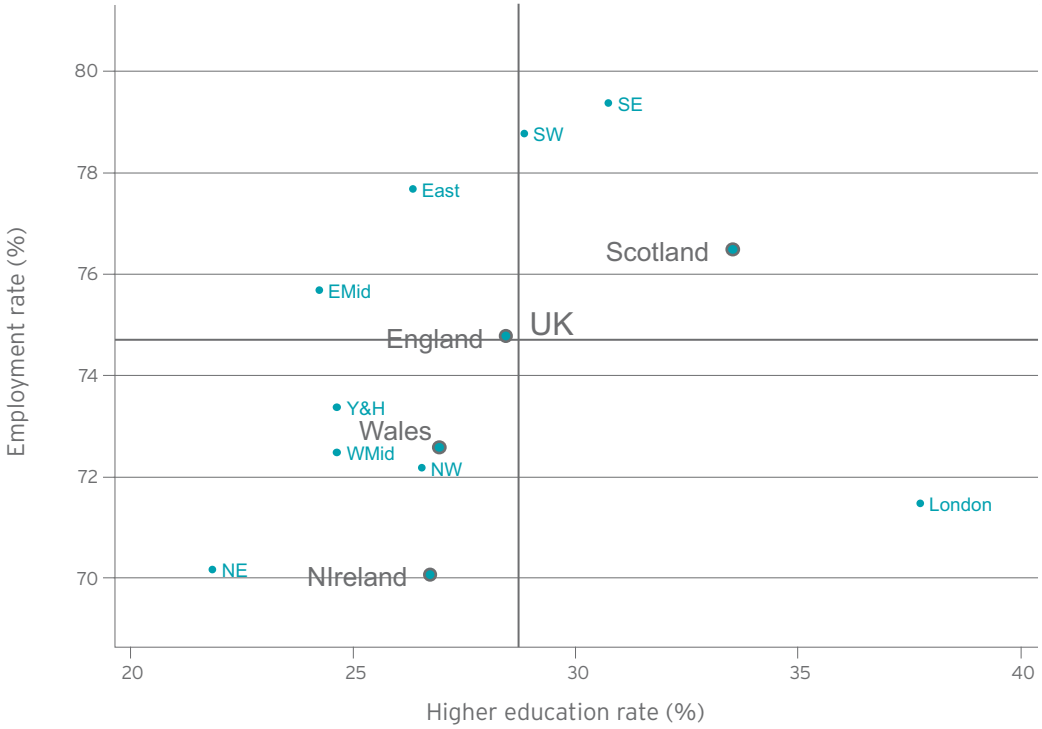


Figure 2B: Spatial economic inactivity and no qualification rates

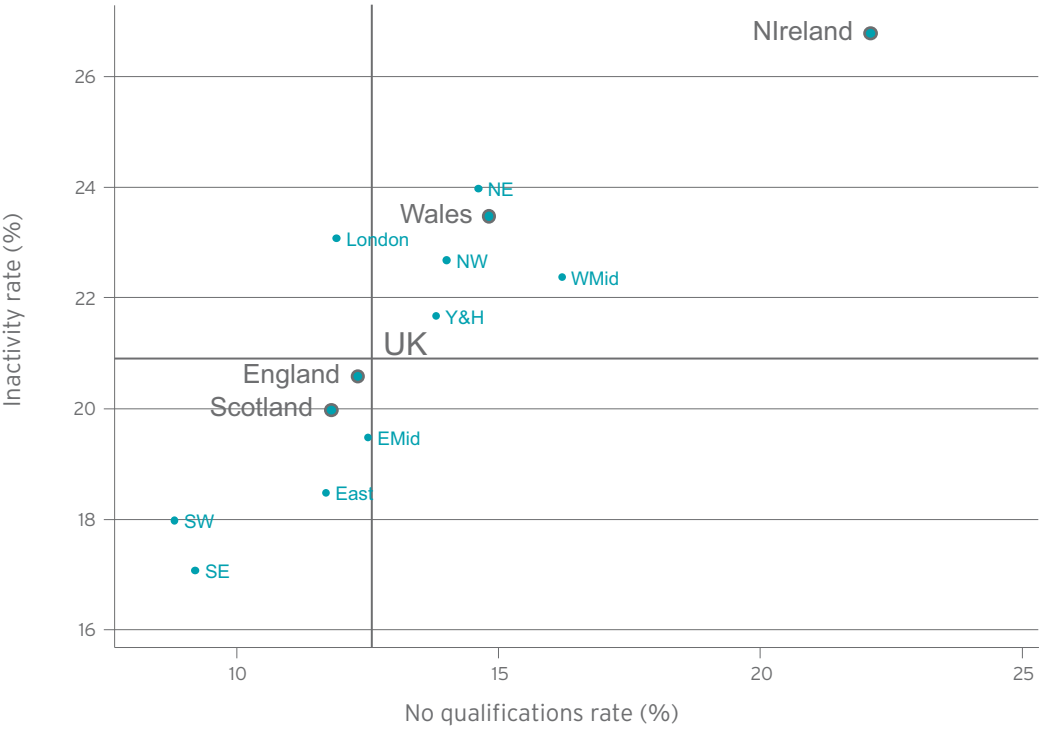


Figure 3A: Productivity and HE qualification rates

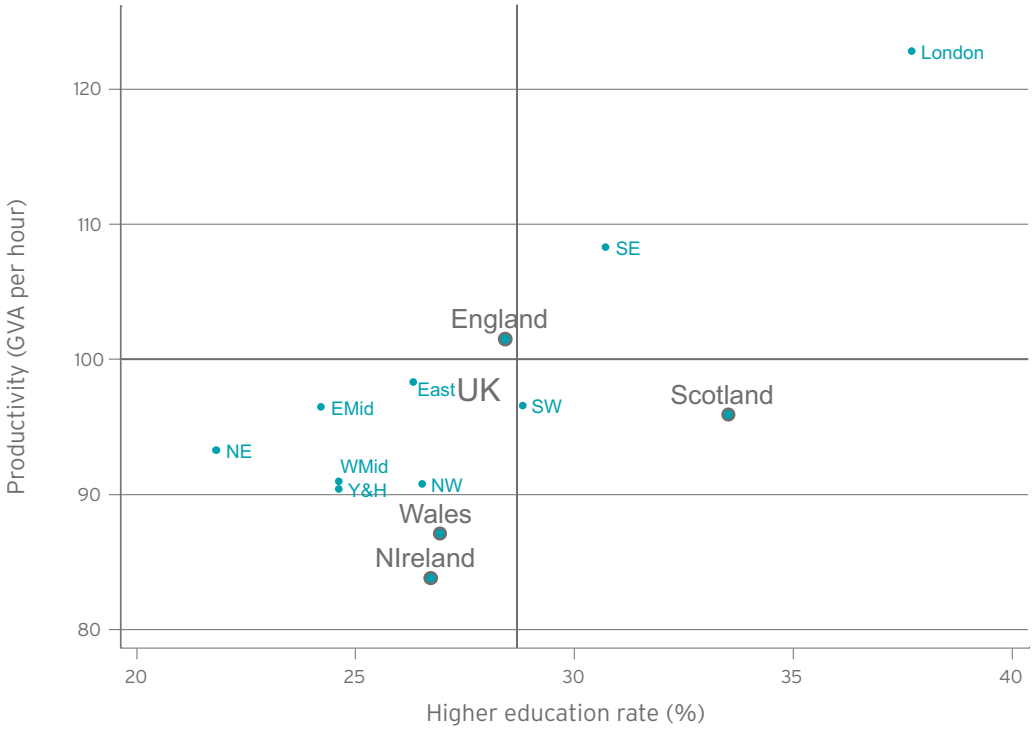


Figure 3B: Productivity and no qualification rates

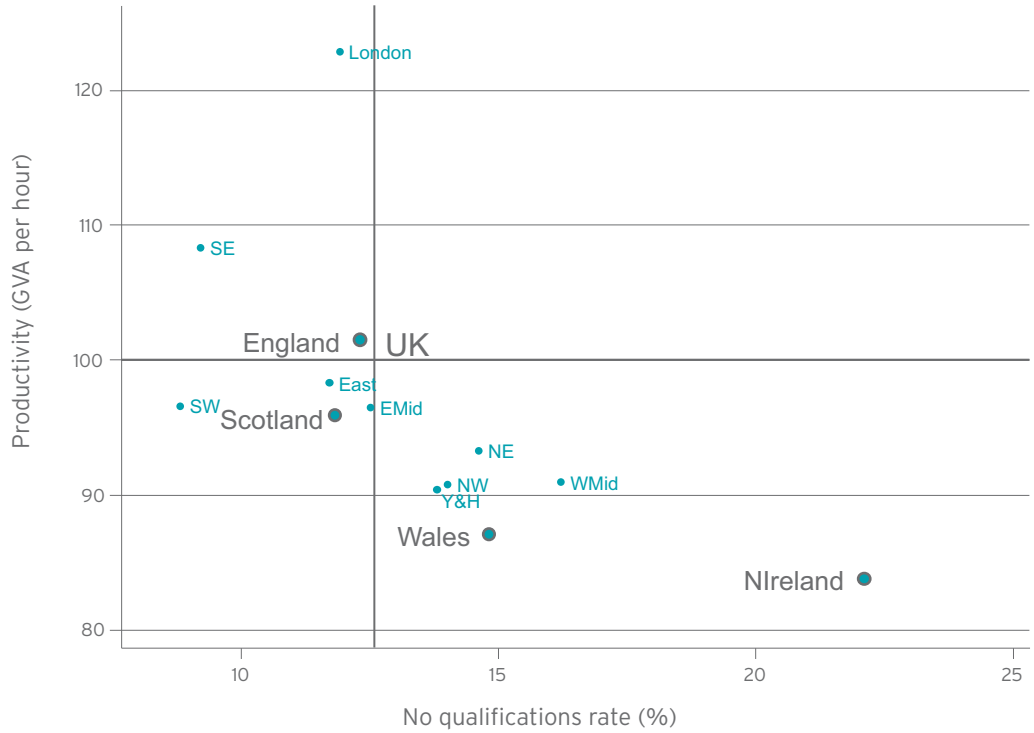
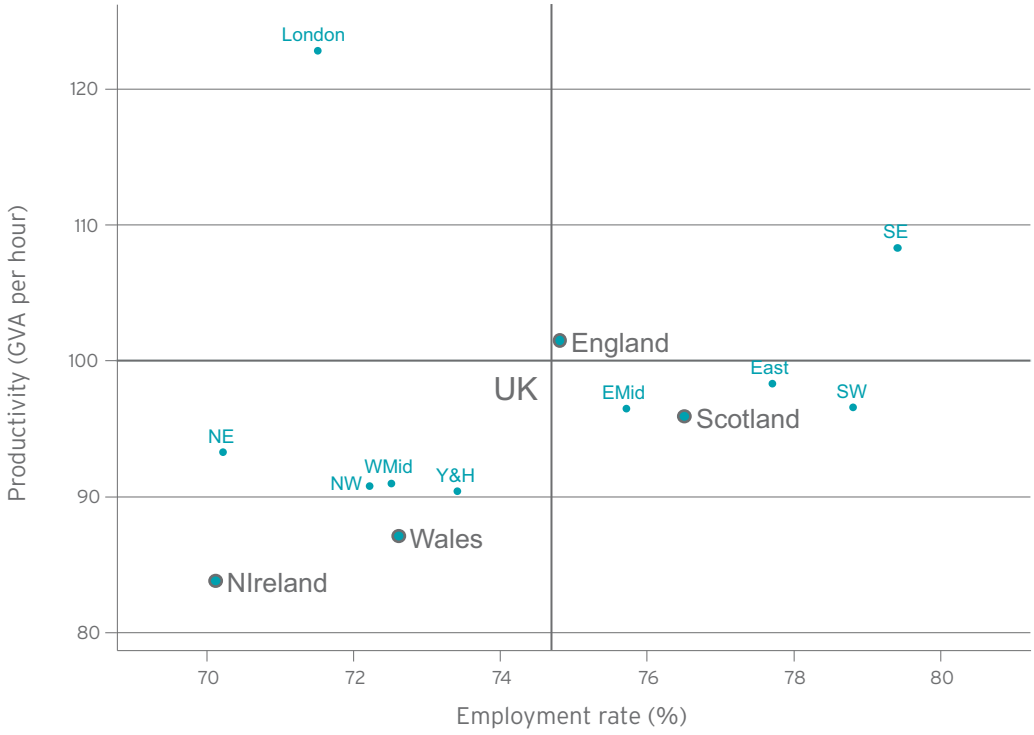


Figure 4: Productivity and employment rates



Sources for Figures 2 to 4:

1. Employment, inactivity and qualification rates: Labour Force Survey 2nd quarter 2008; working age population (males aged 16-64, females aged 16-59).
2. Productivity (2006 Gross Value Added (GVA) per hour worked, UK=100): ONS First Release 23 December 2008.

Figure 5: Skill differentials for Scotland

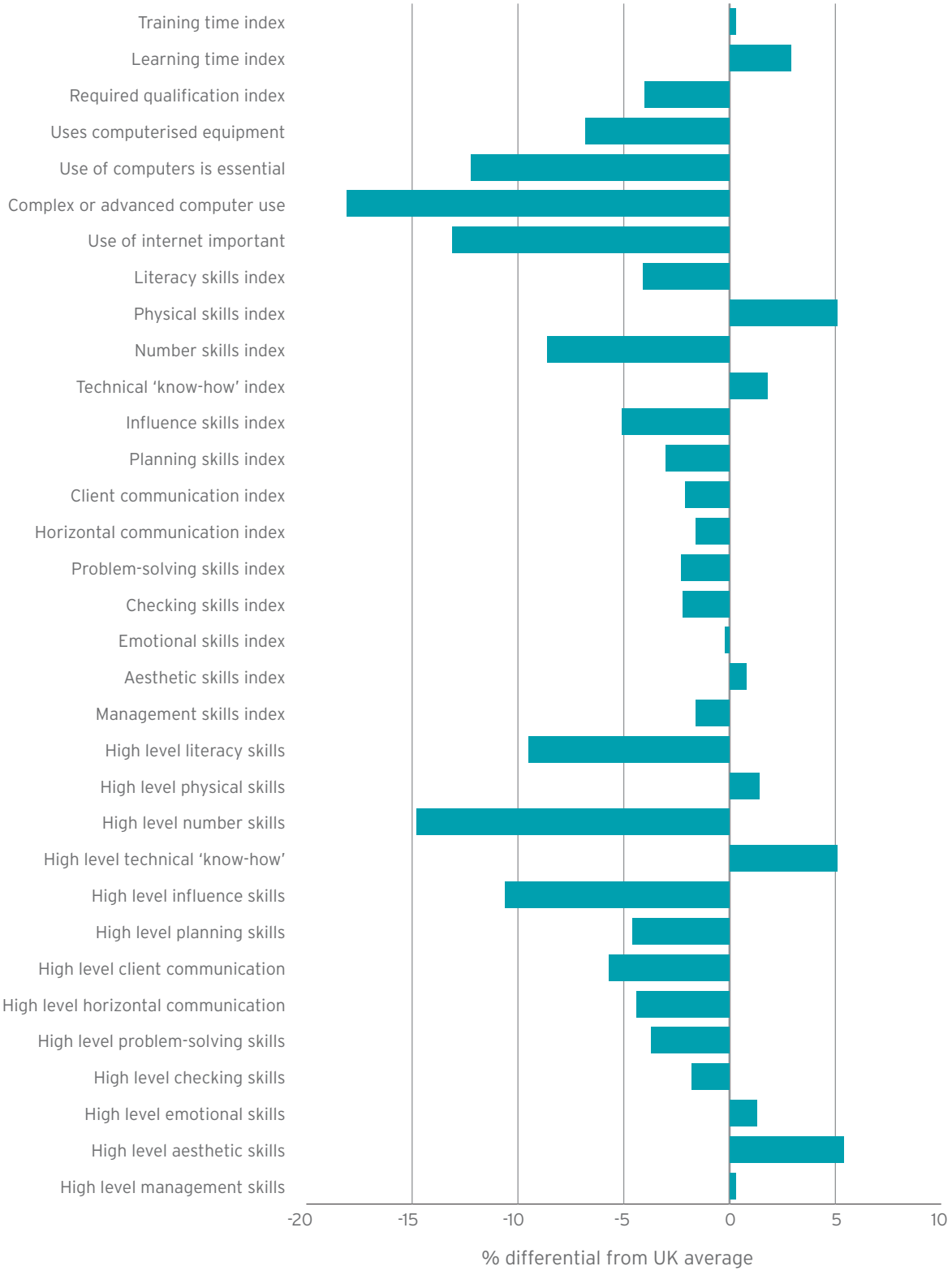


Figure 6: Significant skill differentials for Scotland

Figure 7: Decomposition of skill differentials for Scotland by industry

Figure 8: Decomposition of significant skill differentials for Scotland by industry

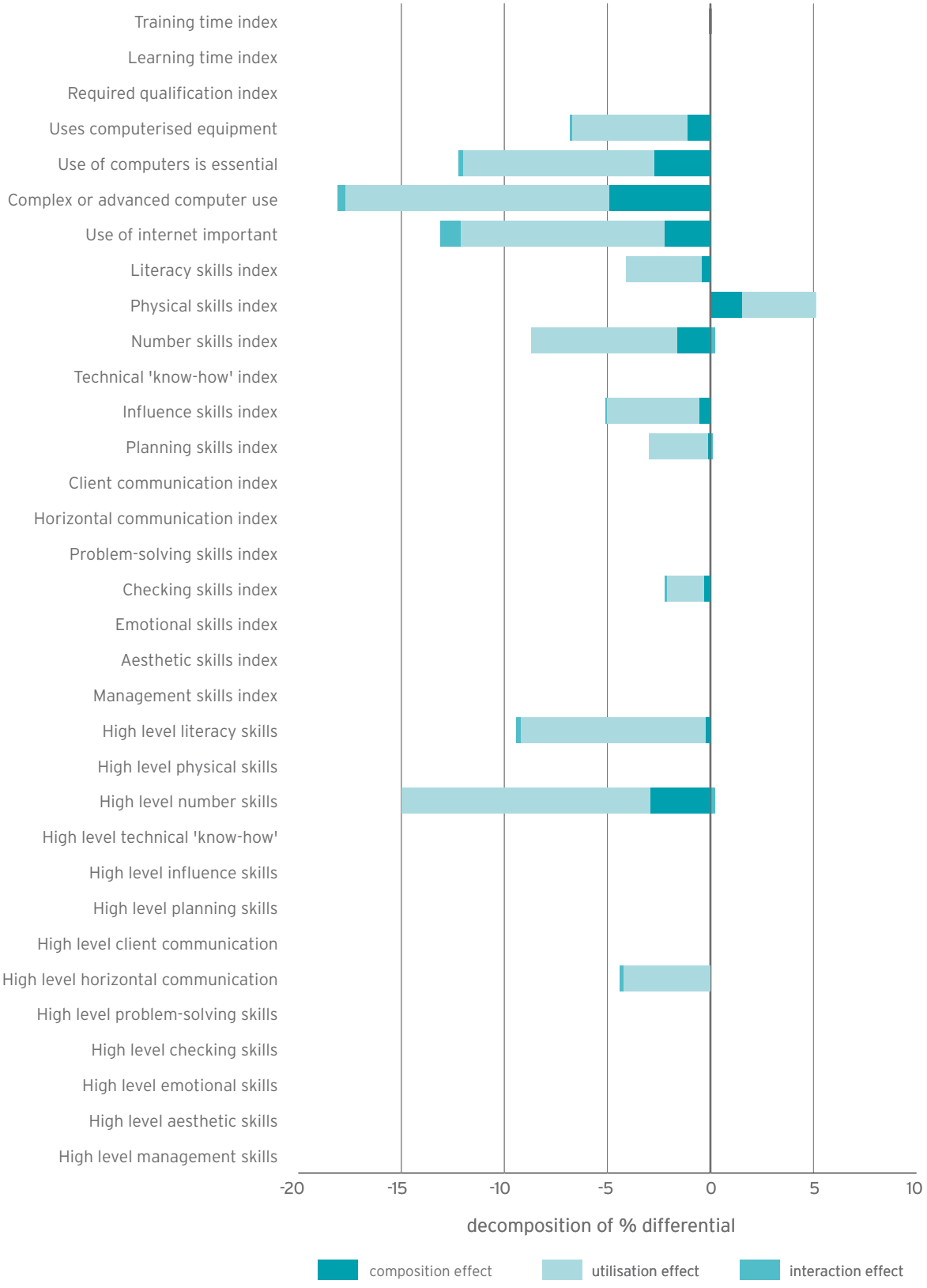


Figure 9: Decomposition of skill differentials for Scotland by occupation

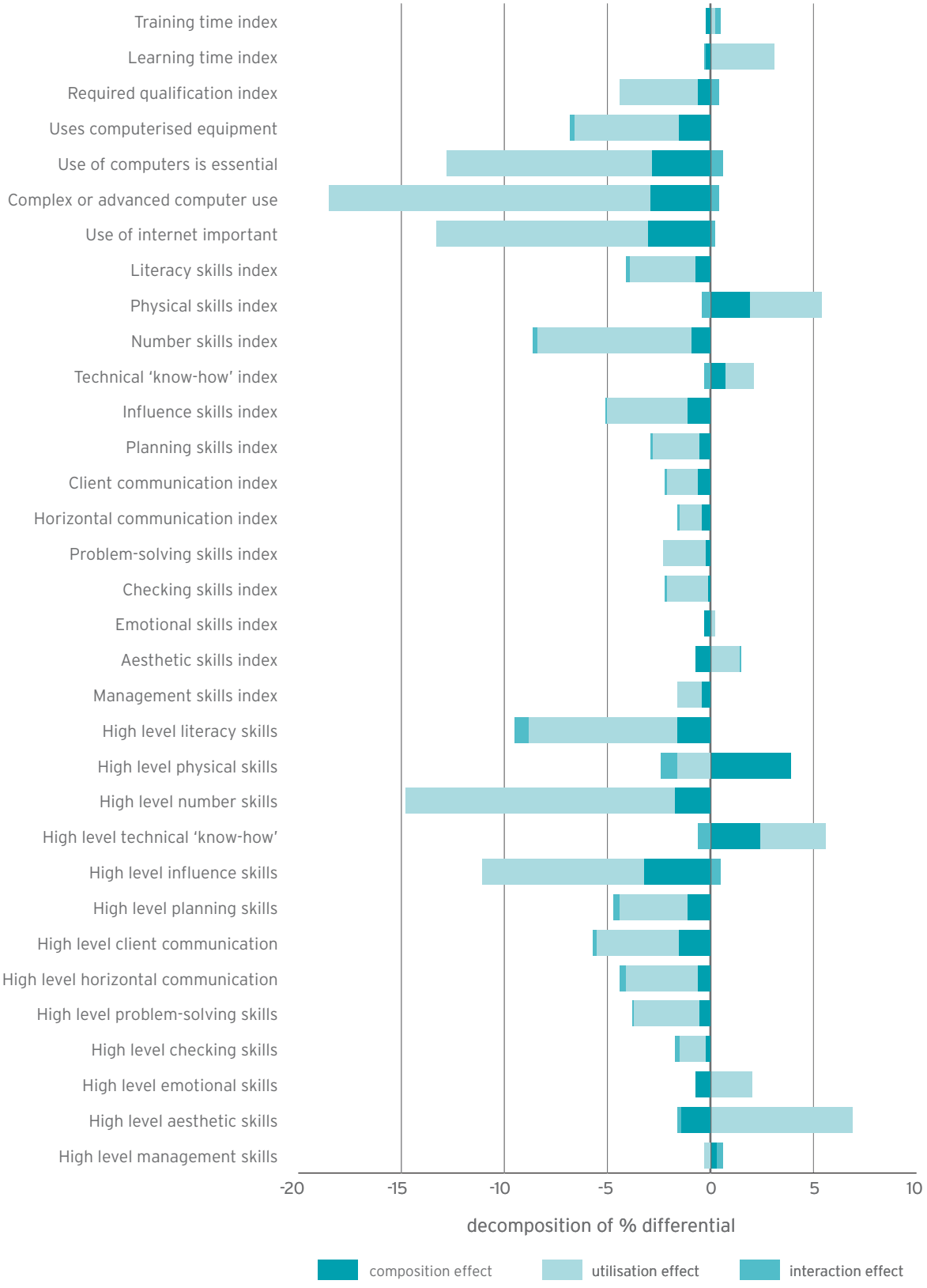


Figure 10: Decomposition of significant skill differentials for Scotland by occupation

Table 1: Skill levels – Scotland vs Rest of UK

skill	Scotland	rest of UK	difference	% difference	sig
Training time index	2.56	2.55	0.01	0%	
Learning time index	3.78	3.66	0.11	3%	
Required qualification index	2.00	2.09	-0.09	-4%	
Uses computerised equipment	0.694	0.751	-0.056	-7%	*
Use of computers is essential	0.409	0.473	-0.062	-13%	*
Complex or advanced computer use	0.180	0.217	-0.042	-19%	*
Use of internet important	0.364	0.422	-0.060	-14%	*
Literacy skills index	2.38	2.49	-0.11	-4%	*
Physical skills index	1.97	1.86	0.11	6%	*
Number skills index	1.72	1.87	-0.18	-9%	*
Technical 'know-how' index	2.61	2.56	0.05	2%	
Influence skills index	1.94	2.05	-0.11	-6%	*
Planning skills index	2.96	3.06	-0.10	-3%	*
Client communication index	2.61	2.67	-0.06	-2%	
Horizontal communication index	3.09	3.14	-0.05	-2%	
Problem-solving skills index	2.94	3.00	-0.08	-3%	
Checking skills index	3.18	3.25	-0.08	-2%	*
Emotional skills index	2.92	2.94	-0.01	0%	
Aesthetic skills index	2.64	2.64	0.02	1%	
Management skills index	2.74	2.79	-0.05	-2%	
High level literacy skills	0.363	0.404	-0.042	-10%	*
High level physical skills	0.259	0.255	0.004	2%	
High level number skills	0.236	0.276	-0.044	-16%	*
High level technical 'know-how'	0.430	0.406	0.023	6%	
High level influence skills	0.209	0.233	-0.027	-11%	
High level planning skills	0.648	0.682	-0.035	-5%	
High level client communication	0.442	0.466	-0.029	-6%	
High level horizontal communication	0.713	0.749	-0.037	-5%	*
High level problem-solving skills	0.645	0.668	-0.027	-4%	
High level checking skills	0.773	0.787	-0.016	-2%	
High level emotional skills	0.650	0.646	0.009	1%	
High level aesthetic skills	0.543	0.515	0.031	6%	
High level management skills	0.795	0.794	0.003	0%	

Note: * denotes difference in skill utilisation between Scotland the rest of the UK is statistically significant at the 5% level.

Source: Author's calculations based on *2006 Skills Survey.*

Table 2A: Broad skills by industry

Industry	training time	learning time	required quals
Agriculture	2.25	3.80	1.15
Manufacturing	2.19	3.67	1.86
Construction	2.60	4.70	2.03
Wholesale & retail	1.48	3.00	1.13
Hotels & rests	1.48	2.41	1.02
Transport & comm	1.74	3.00	1.34
Financial services	3.00	3.99	2.61
Business services	2.66	3.76	2.37
Public admin	2.96	3.64	2.25
Education	3.41	4.32	3.13
Health	3.51	3.74	2.60
Personal services	2.42	3.68	1.93
Total	2.55	3.67	2.08

Table 2B: Broad skills by occupation

Occupation	training time	learning time	required quals
Managers	2.78	4.25	2.55
Professionals	3.73	4.83	3.65
Assoc prof & tech	3.46	4.24	2.89
Admin & clerical	2.29	3.23	2.06
Skilled trades	2.69	4.43	1.90
Personal services	2.85	3.14	1.77
Sales etc	1.39	2.25	0.81
Operatives	1.67	2.92	1.00
Elementary	0.86	2.11	0.43
Total	2.55	3.67	2.08

Source: Author's calculations based on *2006 Skills Survey*.

Table 3A: Computing skills by industry

Industry	uses computer	essential usage	advanced usage	internet important
Agriculture	0.549	0.156	0.085	0.147
Manufacturing	0.754	0.484	0.299	0.365
Construction	0.423	0.170	0.092	0.193
Wholesale & retail	0.769	0.413	0.106	0.318
Hotels & rests	0.515	0.160	0.081	0.152
Transport & comm	0.666	0.419	0.175	0.343
Financial services	0.974	0.867	0.383	0.612
Business services	0.838	0.642	0.366	0.603
Public admin	0.863	0.622	0.245	0.512
Education	0.862	0.490	0.252	0.584
Health	0.697	0.405	0.132	0.394
Personal services	0.669	0.343	0.132	0.391
Total	0.745	0.467	0.214	0.417

Table 3B: Computing skills by occupation

Occupation	uses computer	essential usage	advanced usage	internet important
Managers	0.918	0.675	0.308	0.638
Professionals	0.942	0.670	0.380	0.691
Assoc prof & tech	0.925	0.608	0.353	0.637
Admin & clerical	0.966	0.826	0.268	0.550
Skilled trades	0.489	0.171	0.129	0.174
Personal services	0.427	0.123	0.041	0.158
Sales etc	0.833	0.468	0.082	0.328
Operatives	0.492	0.202	0.089	0.091
Elementary	0.424	0.114	0.018	0.078
Total	0.745	0.467	0.214	0.417

Source: Author's calculations based on *2006 Skills Survey.*

Table 4A: Generic skills by industry

Industry	literacy skills	physical skills	numeracy skills	technical know-how	influence skill	planning skills	client comm	horizontal comm	problem-solving	checking skills	emotional skills	aesthetic skills	management skill
Agriculture	2.03	2.97	1.75	3.01	1.50	2.76	2.12	2.54	3.23	3.06	2.77	1.60	3.04
Manufacturing	2.33	2.17	2.09	2.90	1.92	2.91	2.36	3.05	3.19	3.39	2.62	2.09	2.68
Construction	2.24	2.81	2.14	3.13	1.78	3.13	2.54	2.79	3.26	3.39	2.69	2.40	2.72
Wholesale & retail	2.10	2.07	1.90	2.57	1.71	2.83	3.10	3.05	2.87	3.14	2.86	2.85	2.74
Hotels & rests	1.62	2.16	1.53	2.45	1.49	2.71	2.87	3.13	2.37	2.97	2.95	2.80	2.86
Transport & comm	2.20	2.01	1.54	2.45	1.68	2.79	2.48	2.81	2.77	3.06	2.78	2.50	2.76
Financial services	2.78	0.73	2.53	2.26	2.25	3.09	2.95	3.26	3.08	3.46	2.85	2.83	2.80
Business services	2.58	1.18	2.11	2.27	2.12	3.13	2.65	3.04	3.03	3.28	2.71	2.62	2.71
Public admin	2.81	1.44	1.61	2.25	2.21	3.10	2.46	3.36	3.00	3.25	3.01	2.73	2.70
Education	2.93	1.66	2.01	2.30	2.66	3.42	2.59	3.39	2.92	3.13	3.33	2.85	2.96
Health	2.86	2.01	1.44	2.67	2.28	3.21	2.82	3.41	3.00	3.28	3.41	2.92	2.87
Personal services	2.21	2.13	1.59	2.68	1.96	3.13	2.82	3.07	2.98	3.18	3.15	2.92	2.90
Total	2.48	1.87	1.86	2.56	2.04	3.05	2.67	3.13	3.00	3.24	2.94	2.64	2.78

Table 4B: Generic skills by occupation

Occupation	literacy skills	physical skills	numeracy skills	technical know-how	influence skill	planning skills	client comm	horizontal comm	problem-solving	checking skills	emotional skills	aesthetic skills	management skill
Managers	2.83	1.36	2.50	2.43	2.67	3.47	3.19	3.33	3.30	3.33	3.10	2.93	3.05
Professionals	3.15	1.30	2.26	2.43	2.83	3.51	2.73	3.43	3.18	3.35	3.11	2.75	2.77
Assoc prof & tech	2.90	1.64	1.95	2.62	2.44	3.38	2.84	3.34	3.19	3.43	3.13	2.94	2.80
Admin & clerical	2.64	1.09	2.09	2.19	1.75	3.02	2.47	3.17	2.94	3.45	2.92	2.64	2.52
Skilled trades	2.16	3.05	1.93	3.41	1.71	3.01	2.45	2.79	3.32	3.40	2.60	2.13	2.63
Personal services	2.38	2.28	1.17	2.46	1.93	2.94	2.66	3.21	2.71	2.97	3.40	2.84	2.68
Sales etc	2.02	1.80	1.79	2.58	1.58	2.53	3.33	3.11	2.62	2.98	2.90	3.06	2.41
Operatives	1.98	2.51	1.38	2.72	1.42	2.61	2.05	2.72	2.81	3.15	2.57	2.03	2.52
Elementary	1.48	2.42	0.93	2.23	1.16	2.28	2.14	2.85	2.34	2.70	2.60	2.27	2.46
Total	2.48	1.87	1.86	2.56	2.04	3.05	2.67	3.13	3.00	3.24	2.94	2.64	2.78

Source: Author's calculations based on *2006 Skills Survey.*

Table 5A: High level generic skills by industry

Industry	literacy skills	physical skills	numeracy skills	technical know-how	influence skill	planning skills	client comm	horizontal comm	problem-solving	checking skills	emotional skills	aesthetic skills	management skill
Agriculture	0.312	0.584	0.219	0.631	0.063	0.600	0.250	0.476	0.770	0.703	0.575	0.154	0.875
Manufacturing	0.332	0.328	0.335	0.567	0.192	0.622	0.361	0.708	0.738	0.844	0.499	0.317	0.766
Construction	0.267	0.613	0.299	0.680	0.155	0.677	0.401	0.648	0.768	0.848	0.534	0.425	0.802
Wholesale & retail	0.263	0.274	0.251	0.405	0.138	0.581	0.685	0.710	0.597	0.751	0.615	0.616	0.775
Hotels & rests	0.147	0.285	0.205	0.327	0.086	0.517	0.590	0.735	0.459	0.671	0.672	0.601	0.792
Transport & comm	0.308	0.271	0.200	0.371	0.158	0.581	0.399	0.623	0.597	0.706	0.574	0.459	0.846
Financial services	0.501	0.045	0.471	0.196	0.209	0.694	0.548	0.783	0.711	0.907	0.610	0.588	0.782
Business services	0.415	0.114	0.355	0.288	0.272	0.721	0.472	0.697	0.683	0.805	0.541	0.508	0.785
Public admin	0.527	0.134	0.200	0.248	0.232	0.704	0.325	0.852	0.664	0.788	0.680	0.534	0.768
Education	0.568	0.129	0.315	0.268	0.456	0.833	0.374	0.826	0.605	0.750	0.825	0.608	0.823
Health	0.556	0.278	0.180	0.482	0.305	0.755	0.529	0.855	0.690	0.787	0.855	0.619	0.798
Personal services	0.321	0.304	0.213	0.449	0.200	0.690	0.519	0.738	0.651	0.746	0.726	0.616	0.849
Total	0.400	0.255	0.272	0.408	0.230	0.678	0.464	0.745	0.666	0.785	0.647	0.518	0.794

Table 5B: High level generic skills by occupation

Occupation	literacy skills	physical skills	numeracy skills	technical know-how	influence skill	planning skills	client comm	horizontal comm	problem-solving	checking skills	emotional skills	aesthetic skills	management skill
Managers	0.508	0.125	0.429	0.299	0.441	0.866	0.699	0.825	0.797	0.828	0.718	0.632	0.711
Professionals	0.645	0.074	0.395	0.311	0.507	0.892	0.446	0.836	0.727	0.832	0.711	0.555	0.730
Assoc prof & tech	0.542	0.201	0.283	0.416	0.312	0.832	0.516	0.820	0.743	0.849	0.714	0.626	0.768
Admin & clerical	0.433	0.067	0.348	0.267	0.111	0.647	0.358	0.771	0.632	0.873	0.637	0.517	0.810
Skilled trades	0.260	0.634	0.233	0.822	0.099	0.643	0.367	0.627	0.786	0.850	0.480	0.305	0.801
Personal services	0.374	0.301	0.123	0.397	0.125	0.601	0.404	0.802	0.563	0.675	0.852	0.592	0.860
Sales etc	0.216	0.212	0.250	0.370	0.085	0.439	0.789	0.708	0.500	0.688	0.668	0.707	0.796
Operatives	0.228	0.390	0.155	0.531	0.092	0.485	0.263	0.560	0.586	0.746	0.496	0.308	0.855
Elementary	0.139	0.403	0.064	0.290	0.047	0.362	0.302	0.648	0.435	0.575	0.515	0.384	0.901
Total	0.400	0.255	0.272	0.408	0.230	0.678	0.464	0.745	0.666	0.785	0.646	0.518	0.794

Source: Author's calculations based on *2006 Skills Survey.*

Table 6: Decomposition of Scottish skill differentials by industry

skill	decomposition of Scottish differentials			
	industry	utilisation	interaction	total %
Training time index	0.0%	0.5%	-0.3%	0.3%
Learning time index	-0.4%	2.8%	0.5%	2.9%
Required qualification index	-1.2%	-2.3%	-0.5%	-4.0%
Uses computerised equipment	-1.1%	-5.6%	-0.1%	-6.8%
Use of computers is essential	-2.7%	-9.3%	-0.2%	-12.2%
Complex or advanced computer use	-4.9%	-12.8%	-0.4%	-18.1%
Use of internet important	-2.2%	-9.9%	-1.0%	-13.1%
Literacy skills index	-0.4%	-3.7%	0.0%	-4.1%
Physical skills index	1.5%	3.6%	0.0%	5.1%
Number skills index	-1.6%	-7.1%	0.2%	-8.6%
Technical 'know-how' index	0.1%	1.8%	-0.2%	1.8%
Influence skills index	-0.5%	-4.5%	-0.1%	-5.1%
Planning skills index	-0.1%	-2.9%	0.1%	-3.0%
Client communication index	0.2%	-2.4%	0.0%	-2.1%
Horizontal communication index	0.0%	-1.4%	-0.2%	-1.6%
Problem-solving skills index	-0.3%	-1.8%	-0.2%	-2.3%
Checking skills index	-0.3%	-1.8%	-0.1%	-2.2%
Emotional skills index	0.6%	-0.7%	-0.1%	-0.2%
Aesthetic skills index	0.4%	0.7%	-0.3%	0.8%
Management skills index	0.2%	-1.4%	-0.4%	-1.6%
High level literacy skills	-0.2%	-9.0%	-0.2%	-9.5%
High level physical skills	2.3%	-1.4%	0.5%	1.4%
High level number skills	-2.9%	-12.1%	0.2%	-14.8%
High level technical 'know-how'	0.5%	4.8%	-0.1%	5.1%
High level influence skills	-1.3%	-9.0%	-0.2%	-10.6%
High level planning skills	-0.2%	-4.5%	0.1%	-4.6%
High level client communication	0.5%	-6.1%	-0.1%	-5.7%
High level horizontal communication	0.0%	-4.2%	-0.2%	-4.4%
High level problem-solving skills	-0.4%	-2.6%	-0.7%	-3.7%
High level checking skills	-0.6%	-0.9%	-0.3%	-1.8%
High level emotional skills	1.3%	0.3%	-0.3%	1.3%
High level aesthetic skills	0.8%	5.0%	-0.4%	5.4%
High level management skills	0.3%	0.4%	-0.3%	0.3%

Source: Author's calculations based on *2006 Skills Survey.*

Table 7: Decomposition of Scottish skill differentials by occupation

skill	decomposition of Scottish differentials			
	occupation	utilisation	interaction	total %
Training time index	-0.2%	0.2%	0.3%	0.3%
Learning time index	-0.2%	3.1%	-0.1%	2.9%
Required qualification index	-0.6%	-3.8%	0.4%	-4.0%
Uses computerised equipment	-1.5%	-5.1%	-0.2%	-6.8%
Use of computers is essential	-2.8%	-10.0%	0.6%	-12.2%
Complex or advanced computer use	-2.9%	-15.6%	0.4%	-18.1%
Use of internet important	-3.0%	-10.3%	0.2%	-13.1%
Literacy skills index	-0.7%	-3.2%	-0.2%	-4.1%
Physical skills index	1.9%	3.5%	-0.4%	5.1%
Number skills index	-0.9%	-7.5%	-0.2%	-8.6%
Technical 'know-how' index	0.7%	1.4%	-0.3%	1.8%
Influence skills index	-1.1%	-3.9%	-0.1%	-5.1%
Planning skills index	-0.5%	-2.3%	-0.1%	-3.0%
Client communication index	-0.6%	-1.5%	-0.1%	-2.1%
Horizontal communication index	-0.4%	-1.1%	-0.1%	-1.6%
Problem-solving skills index	-0.2%	-2.1%	0.0%	-2.3%
Checking skills index	-0.1%	-2.0%	-0.1%	-2.2%
Emotional skills index	-0.3%	0.2%	0.0%	-0.2%
Aesthetic skills index	-0.7%	1.4%	0.1%	0.8%
Management skills index	-0.4%	-1.2%	0.0%	-1.6%
High level literacy skills	-1.6%	-7.2%	-0.7%	-9.5%
High level physical skills	3.9%	-1.6%	-0.8%	1.4%
High level number skills	-1.7%	-13.1%	0.0%	-14.8%
High level technical 'know-how'	2.4%	3.2%	-0.6%	5.1%
High level influence skills	-3.2%	-7.9%	0.5%	-10.6%
High level planning skills	-1.1%	-3.3%	-0.3%	-4.6%
High level client communication	-1.5%	-4.0%	-0.2%	-5.7%
High level horizontal communication	-0.6%	-3.5%	-0.3%	-4.4%
High level problem-solving skills	-0.5%	-3.2%	-0.1%	-3.7%
High level checking skills	-0.2%	-1.3%	-0.2%	-1.8%
High level emotional skills	-0.7%	2.0%	0.0%	1.3%
High level aesthetic skills	-1.4%	6.9%	-0.2%	5.4%
High level management skills	0.3%	-0.3%	0.3%	0.3%

Source: Author's calculations based on *2006 Skills Survey.*

Table 8: Relative contributions to variance in differentials between countries by industry

skill	contribution to variance of differentials				total
	industry	utilisation	interaction	covariance	
Training time index	21.6%	167.7%	14.8%	-104.1%	=100%
Learning time index	18.6%	111.0%	12.0%	-41.6%	=100%
Required qualification index	13.4%	70.0%	4.4%	12.2%	=100%
Uses computerised equipment	5.5%	55.2%	0.4%	38.9%	=100%
Use of computers is essential	14.0%	60.0%	1.1%	24.9%	=100%
Complex or advanced computer use	7.2%	61.6%	10.7%	20.5%	=100%
Use of internet important	8.5%	71.7%	6.8%	13.0%	=100%
Literacy skills index	5.0%	120.8%	0.5%	-26.3%	=100%
Physical skills index	20.4%	25.3%	1.1%	53.3%	=100%
Number skills index	3.3%	78.2%	8.3%	10.2%	=100%
Technical 'know-how' index	9.2%	90.9%	3.7%	-3.8%	=100%
Influence skills index	7.3%	86.4%	11.4%	-5.2%	=100%
Planning skills index	5.8%	113.0%	4.2%	-23.0%	=100%
Client communication index	10.5%	107.0%	25.6%	-43.2%	=100%
Horizontal communication index	1.9%	115.9%	12.8%	-30.7%	=100%
Problem-solving skills index	2.5%	130.6%	4.5%	-37.5%	=100%
Checking skills index	1.2%	101.1%	1.4%	-3.7%	=100%
Emotional skills index	9.1%	125.4%	5.8%	-40.3%	=100%
Aesthetic skills index	2.7%	68.2%	2.3%	26.8%	=100%
Management skills index	6.1%	218.3%	180.1%	-304.6%	=100%
High level literacy skills	2.6%	122.1%	0.0%	-24.7%	=100%
High level physical skills	20.8%	24.0%	3.7%	51.5%	=100%
High level number skills	4.5%	129.9%	25.1%	-59.6%	=100%
High level technical 'know-how'	10.5%	45.0%	11.5%	33.1%	=100%
High level influence skills	8.3%	124.7%	16.2%	-49.2%	=100%
High level planning skills	9.2%	99.5%	14.8%	-23.6%	=100%
High level client communication	5.0%	69.8%	24.7%	0.4%	=100%
High level horizontal communication	3.3%	148.4%	37.3%	-89.0%	=100%
High level problem-solving skills	3.2%	140.8%	26.6%	-70.6%	=100%
High level checking skills	2.3%	85.4%	10.4%	1.8%	=100%
High level emotional skills	4.4%	171.6%	8.4%	-84.4%	=100%
High level aesthetic skills	1.3%	103.7%	5.5%	-10.4%	=100%
High level management skills	8.2%	207.4%	17.6%	-133.3%	=100%
Averages	7.8%	104.6%	15.6%	-27.9%	=100%

Source: Author's calculations based on *2006 Skills Survey.*

Table 9: Relative contributions to variance in differentials between countries by occupation

skill	contribution to variance of differentials				total
	occupation	utilisation	interaction	covariance	
Training time index	18.4%	81.3%	1.0%	-0.7%	=100%
Learning time index	19.0%	87.8%	3.6%	-10.4%	=100%
Required qualification index	19.5%	77.1%	7.0%	-3.6%	=100%
Uses computerised equipment	36.1%	68.1%	0.6%	-4.9%	=100%
Use of computers is essential	40.0%	64.1%	2.3%	-6.4%	=100%
Complex or advanced computer use	7.2%	72.6%	0.8%	19.3%	=100%
Use of internet important	28.2%	42.9%	1.5%	27.4%	=100%
Literacy skills index	18.9%	150.4%	0.3%	-69.6%	=100%
Physical skills index	22.0%	36.6%	0.4%	40.9%	=100%
Number skills index	20.4%	84.0%	3.1%	-7.6%	=100%
Technical 'know-how' index	2.6%	48.9%	8.2%	40.3%	=100%
Influence skills index	62.1%	154.3%	0.3%	-116.6%	=100%
Planning skills index	25.0%	129.2%	0.9%	-55.0%	=100%
Client communication index	205.3%	188.6%	4.0%	-297.8%	=100%
Horizontal communication index	13.9%	108.9%	3.4%	-26.2%	=100%
Problem-solving skills index	4.5%	79.6%	3.3%	12.6%	=100%
Checking skills index	1.6%	75.8%	2.3%	20.3%	=100%
Emotional skills index	23.9%	232.3%	5.1%	-161.3%	=100%
Aesthetic skills index	15.3%	99.4%	0.3%	-15.0%	=100%
Management skills index	42.5%	115.1%	27.2%	-84.8%	=100%
High level literacy skills	7.9%	141.0%	0.2%	-49.1%	=100%
High level physical skills	28.2%	42.8%	0.7%	28.3%	=100%
High level number skills	13.8%	68.0%	2.8%	15.4%	=100%
High level technical 'know-how'	7.2%	40.9%	4.3%	47.6%	=100%
High level influence skills	50.9%	122.3%	2.4%	-75.5%	=100%
High level planning skills	46.8%	104.4%	21.6%	-72.8%	=100%
High level client communication	53.9%	224.4%	0.9%	-179.1%	=100%
High level horizontal communication	16.0%	98.7%	4.1%	-18.8%	=100%
High level problem-solving skills	5.1%	85.9%	1.8%	7.2%	=100%
High level checking skills	3.1%	71.7%	4.6%	20.6%	=100%
High level emotional skills	10.9%	209.7%	2.3%	-122.9%	=100%
High level aesthetic skills	9.4%	127.5%	0.1%	-37.1%	=100%
High level management skills	40.7%	29.1%	5.8%	24.5%	=100%
Averages	27.9%	101.9%	3.9%	-33.7%	=100%

Source: Author's calculations based on *2006 Skills Survey.*

STATISTICAL ANNEXES

ANNEX A: DETAILED DIFFERENTIALS AND DECOMPOSITION BY INDUSTRY

Table A1: Training time index

Skill variable: Training time index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.5571	0.0070	0.3%	
Rest of UK	2.5501			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.5571	0.0064	0.0011	0.0118	-0.0066
England	2.5657	0.0150	-0.0012	0.0169	-0.0007
Wales	2.2995	-0.2513	-0.0379	-0.2028	-0.0107
N Ireland	2.4287	-0.1221	0.0986	-0.3108	0.0902
UK	2.5508	0.0000			

	proportionate differential	relative contributions (%)			
		industry	utilisation	interaction	total
Scotland	0.3%	17	186	-103	=100%
England	0.6%	-8	113	-5	=100%
Wales	-9.9%	15	81	4	=100%
N Ireland	-4.8%	-81	255	-74	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.5571	0.0064	0.0969	0.07	0.95	
England	2.5657	0.0150	0.0130	1.15	0.25	
Wales	2.2995	-0.2513	0.1479	1.70	0.09	
N Ireland	2.4287	-0.1221	0.1907	0.64	0.52	
UK	2.5508	0.0000				

* denotes significant differential at the 5% level

Table A2: Learning time index

Skill variable: Learning time index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.7631	0.1147	3.1%	
Rest of UK	3.6484			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	3.7631	0.1044	-0.0163	0.1038	0.0170
England	3.6524	-0.0063	0.0005	-0.0081	0.0013
Wales	3.6345	-0.0241	-0.0162	-0.0160	0.0081
N Ireland	3.5362	-0.1225	0.0678	-0.1360	-0.0543
UK	3.6587	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	2.9%	-16	99	16	=100%
England	-0.2%	-8	129	-21	=100%
Wales	-0.7%	67	66	-34	=100%
N Ireland	-3.3%	-55	111	44	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.7631	0.1044	0.0695	1.50	0.13	
England	3.6524	-0.0063	0.0093	0.67	0.50	
Wales	3.6345	-0.0241	0.1051	0.23	0.82	
N Ireland	3.5362	-0.1225	0.1366	0.90	0.37	
UK	3.6587	0.0000				

* denotes significant differential at the 5% level

Table A3: Required qualification index

Skill variable: Required qualification index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9875	-0.0900	-4.3%	
Rest of UK	2.0775			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	1.9875	-0.0820	-0.0243	-0.0476	-0.0101
England	2.0839	0.0144	0.0031	0.0116	-0.0003
Wales	1.8976	-0.1719	-0.0435	-0.1577	0.0293
N Ireland	2.1563	0.0868	0.0518	0.0617	-0.0267
UK	2.0695	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-4.0%	30	58	12	=100%
England	0.7%	22	81	-2	=100%
Wales	-8.3%	25	92	-17	=100%
N Ireland	4.2%	60	71	-31	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9875	-0.0820	0.0597	1.37	0.17	
England	2.0839	0.0144	0.0080	1.80	0.07	
Wales	1.8976	-0.1719	0.0904	1.90	0.06	
N Ireland	2.1563	0.0868	0.1172	0.74	0.46	
UK	2.0695	0.0000				

* denotes significant differential at the 5% level

Table A4: Uses computerised equipment

Skill variable: Uses computerised equipment

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6933	-0.0557	-7.4%	*
Rest of UK	0.7490			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.6933	-0.0507	-0.0084	-0.0419	-0.0004
England	0.7531	0.0091	0.0017	0.0076	-0.0003
Wales	0.7058	-0.0382	-0.0076	-0.0280	-0.0026
N Ireland	0.6814	-0.0626	-0.0162	-0.0418	-0.0046
UK	0.7440	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-6.8%	17	83	1	=100%
England	1.2%	19	84	-3	=100%
Wales	-5.1%	20	73	7	=100%
N Ireland	-8.4%	26	67	7	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6933	-0.0507	0.0160	3.17	0.00	*
England	0.7531	0.0091	0.0022	4.22	0.00	*
Wales	0.7058	-0.0382	0.0240	1.59	0.11	
N Ireland	0.6814	-0.0626	0.0315	1.99	0.05	*
UK	0.7440	0.0000				

* denotes significant differential at the 5% level

Table A5: Use of computers is essential

Skill variable: Use of computers is essential

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4076	-0.0622	-13.2%	*
Rest of UK	0.4698			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.4076	-0.0567	-0.0126	-0.0431	-0.0010
England	0.4737	0.0094	0.0030	0.0065	-0.0002
Wales	0.4291	-0.0352	-0.0228	-0.0061	-0.0062
N Ireland	0.4080	-0.0562	-0.0201	-0.0375	0.0013
UK	0.4643	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-12.2%	22	76	2	=100%
England	2.0%	33	69	-2	=100%
Wales	-7.6%	65	17	18	=100%
N Ireland	-12.1%	36	67	-2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4076	-0.0567	0.0183	3.10	0.00	*
England	0.4737	0.0094	0.0025	3.81	0.00	*
Wales	0.4291	-0.0352	0.0274	1.28	0.20	
N Ireland	0.4080	-0.0562	0.0360	1.56	0.12	
UK	0.4643	0.0000				

* denotes significant differential at the 5% level

Table A6: Complex or advanced computer use

Skill variable: Complex or advanced computer use

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.1738	-0.0421	-19.5%	*
Rest of UK	0.2159			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.1738	-0.0383	-0.0104	-0.0271	-0.0008
England	0.2200	0.0079	0.0023	0.0057	-0.0001
Wales	0.1735	-0.0386	-0.0164	-0.0405	0.0184
N Ireland	0.1460	-0.0661	-0.0134	-0.0492	-0.0035
UK	0.2121	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-18.1%	27	71	2	=100%
England	3.7%	29	72	-1	=100%
Wales	-18.2%	43	105	-48	=100%
N Ireland	-31.2%	20	74	5	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.1738	-0.0383	0.0150	2.55	0.01	*
England	0.2200	0.0079	0.0020	3.91	0.00	*
Wales	0.1735	-0.0386	0.0225	1.72	0.09	
N Ireland	0.1460	-0.0661	0.0295	2.24	0.03	*
UK	0.2121	0.0000				

* denotes significant differential at the 5% level

Table A7: Use of internet important

Skill variable: Use of internet important

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.3607	-0.0596	-14.2%	*
Rest of UK	0.4203			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.3607	-0.0543	-0.0091	-0.0409	-0.0042
England	0.4258	0.0108	0.0025	0.0083	-0.0001
Wales	0.3446	-0.0704	-0.0223	-0.0644	0.0162
N Ireland	0.3626	-0.0524	-0.0147	-0.0356	-0.0021
UK	0.4150	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-13.1%	17	75	8	=100%
England	2.6%	23	77	-1	=100%
Wales	-17.0%	32	91	-23	=100%
N Ireland	-12.6%	28	68	4	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.3607	-0.0543	0.0181	3.00	0.00	*
England	0.4258	0.0108	0.0024	4.43	0.00	*
Wales	0.3446	-0.0704	0.0271	2.60	0.01	*
N Ireland	0.3626	-0.0524	0.0356	1.47	0.14	
UK	0.4150	0.0000				

* denotes significant differential at the 5% level

Table A8: Literacy skills index

Skill variable: Literacy skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.3768	-0.1113	-4.5%	*
Rest of UK	2.4881			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.3768	-0.1014	-0.0094	-0.0921	0.0001
England	2.4908	0.0127	0.0010	0.0119	-0.0002
Wales	2.5127	0.0346	-0.0147	0.0380	0.0113
N Ireland	2.3522	-0.1259	0.0259	-0.1504	-0.0014
UK	2.4781	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-4.1%	9	91	0	=100%
England	0.5%	8	94	-1	=100%
Wales	1.4%	-42	110	33	=100%
N Ireland	-5.1%	-21	119	1	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.3768	-0.1014	0.0402	2.52	0.01	*
England	2.4908	0.0127	0.0054	2.35	0.02	*
Wales	2.5127	0.0346	0.0602	0.57	0.57	
N Ireland	2.3522	-0.1259	0.0791	1.59	0.11	
UK	2.4781	0.0000				

* denotes significant differential at the 5% level

Table A9: Physical skills index

Skill variable: Physical skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9736	0.1052	5.6%	*
Rest of UK	1.8684			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	1.9736	0.0958	0.0275	0.0676	0.0007
England	1.8539	-0.0239	-0.0093	-0.0150	0.0004
Wales	2.0909	0.2132	0.0921	0.1010	0.0201
N Ireland	1.9867	0.1090	0.0621	0.0473	-0.0005
UK	1.8778	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	5.1%	29	71	1	=100%
England	-1.3%	39	63	-2	=100%
Wales	11.4%	43	47	9	=100%
N Ireland	5.8%	57	43	0	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9736	0.0958	0.0448	2.14	0.03	*
England	1.8539	-0.0239	0.0060	3.96	0.00	*
Wales	2.0909	0.2132	0.0672	3.17	0.00	*
N Ireland	1.9867	0.1090	0.0883	1.23	0.22	
UK	1.8778	0.0000				

* denotes significant differential at the 5% level

Table A10: Number skills index

Skill variable: Number skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.6959	-0.1750	-9.4%	*
Rest of UK	1.8709			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	1.6959	-0.1594	-0.0298	-0.1325	0.0029
England	1.8756	0.0203	0.0045	0.0162	-0.0004
Wales	1.7929	-0.0624	-0.0181	-0.0929	0.0487
N Ireland	1.8410	-0.0142	-0.0143	-0.0129	0.0129
UK	1.8553	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-8.6%	19	83	-2	=100%
England	1.1%	22	80	-2	=100%
Wales	-3.4%	29	149	-78	=100%
N Ireland	-0.8%	101	90	-91	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.6959	-0.1594	0.0472	3.38	0.00	*
England	1.8756	0.0203	0.0063	3.21	0.00	*
Wales	1.7929	-0.0624	0.0708	0.88	0.38	
N Ireland	1.8410	-0.0142	0.0930	0.15	0.88	
UK	1.8553	0.0000				

* denotes significant differential at the 5% level

Table A11: Technical 'know-how' index

Skill variable: Technical 'know-how' index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6084	0.0502	2.0%	
Rest of UK	2.5582			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.6084	0.0457	0.0037	0.0474	-0.0053
England	2.5570	-0.0057	-0.0031	-0.0026	0.0000
Wales	2.6285	0.0658	0.0335	0.0231	0.0092
N Ireland	2.4813	-0.0814	0.0354	-0.0957	-0.0210
UK	2.5627	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	1.8%	8	104	-12	=100%
England	-0.2%	54	45	1	=100%
Wales	2.6%	51	35	14	=100%
N Ireland	-3.2%	-43	118	26	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6084	0.0457	0.0352	1.30	0.19	
England	2.5570	-0.0057	0.0047	1.21	0.23	
Wales	2.6285	0.0658	0.0528	1.25	0.21	
N Ireland	2.4813	-0.0814	0.0693	1.17	0.24	
UK	2.5627	0.0000				

* denotes significant differential at the 5% level

Table A12: Influence skills index

Skill variable: Influence skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9329	-0.1135	-5.5%	*
Rest of UK	2.0464			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	1.9329	-0.1034	-0.0103	-0.0912	-0.0019
England	2.0491	0.0128	0.0013	0.0115	0.0000
Wales	2.0247	-0.0115	-0.0140	-0.0322	0.0347
N Ireland	1.9907	-0.0455	0.0162	-0.0783	0.0167
UK	2.0363	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-5.1%	10	88	2	=100%
England	0.6%	10	89	0	=100%
Wales	-0.6%	122	279	-300	=100%
N Ireland	-2.2%	-36	172	-37	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9329	-0.1034	0.0376	2.75	0.01	*
England	2.0491	0.0128	0.0051	2.54	0.01	*
Wales	2.0247	-0.0115	0.0564	0.20	0.84	
N Ireland	1.9907	-0.0455	0.0741	0.61	0.54	
UK	2.0363	0.0000				

* denotes significant differential at the 5% level

Table A13: Planning skills index

Skill variable: Planning skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9610	-0.0996	-3.3%	*
Rest of UK	3.0606			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.9610	-0.0907	-0.0037	-0.0889	0.0019
England	3.0629	0.0112	0.0004	0.0104	0.0004
Wales	3.0573	0.0056	-0.0116	-0.0062	0.0234
N Ireland	2.9859	-0.0658	0.0176	-0.0934	0.0100
UK	3.0517	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-3.0%	4	98	-2	=100%
England	0.4%	4	93	3	=100%
Wales	0.2%	-208	-111	419	=100%
N Ireland	-2.2%	-27	142	-15	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9610	-0.0907	0.0342	2.65	0.01	*
England	3.0629	0.0112	0.0046	2.44	0.02	*
Wales	3.0573	0.0056	0.0513	0.11	0.91	
N Ireland	2.9859	-0.0658	0.0673	0.98	0.33	
UK	3.0517	0.0000				

* denotes significant differential at the 5% level

Table A14: Client communication index

Skill variable: Client communication index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6123	-0.0624	-2.3%	
Rest of UK	2.6747			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.6123	-0.0569	0.0062	-0.0639	0.0008
England	2.6784	0.0093	0.0002	0.0091	0.0000
Wales	2.6303	-0.0388	-0.0163	-0.0266	0.0041
N Ireland	2.6225	-0.0466	-0.0028	-0.0159	-0.0278
UK	2.6691	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-2.1%	-11	112	-1	=100%
England	0.3%	2	98	0	=100%
Wales	-1.5%	42	69	-10	=100%
N Ireland	-1.7%	6	34	60	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6123	-0.0569	0.0345	1.65	0.10	
England	2.6784	0.0093	0.0046	2.01	0.05	*
Wales	2.6303	-0.0388	0.0517	0.75	0.45	
N Ireland	2.6225	-0.0466	0.0679	0.69	0.49	
UK	2.6691	0.0000				

* denotes significant differential at the 5% level

Table A15: Horizontal communication index

Skill variable: Horizontal communication index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.0874	-0.0536	-1.7%	
Rest of UK	3.1410			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	3.0874	-0.0488	-0.0008	-0.0428	-0.0052
England	3.1450	0.0088	-0.0008	0.0100	-0.0004
Wales	3.1360	-0.0002	0.0072	-0.0501	0.0427
N Ireland	3.0122	-0.1240	0.0171	-0.1471	0.0061
UK	3.1362	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-1.6%	2	88	11	=100%
England	0.3%	-9	114	-5	=100%
Wales	0.0%	N/A	N/A	N/A	=100%
N Ireland	-4.0%	-14	119	-5	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.0874	-0.0488	0.0358	1.36	0.17	
England	3.1450	0.0088	0.0048	1.83	0.07	
Wales	3.1360	-0.0002	0.0537	0.00	1.00	
N Ireland	3.0122	-0.1240	0.0705	1.76	0.08	
UK	3.1362	0.0000				

* denotes significant differential at the 5% level

Table A16: Problem-solving skills index

Skill variable: Problem-solving skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9233	-0.0757	-2.5%	
Rest of UK	2.9990			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.9233	-0.0689	-0.0094	-0.0547	-0.0048
England	3.0027	0.0104	0.0003	0.0103	-0.0001
Wales	3.0000	0.0078	0.0067	-0.0187	0.0197
N Ireland	2.8718	-0.1205	0.0143	-0.1561	0.0214
UK	2.9922	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-2.3%	14	79	7	=100%
England	0.3%	2	98	-1	=100%
Wales	0.3%	86	-241	255	=100%
N Ireland	-4.0%	-12	130	-18	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9233	-0.0689	0.0363	1.90	0.06	
England	3.0027	0.0104	0.0049	2.14	0.03	*
Wales	3.0000	0.0078	0.0544	0.14	0.89	
N Ireland	2.8718	-0.1205	0.0715	1.69	0.09	
UK	2.9922	0.0000				

* denotes significant differential at the 5% level

Table A17: Checking skills index

Skill variable: Checking skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.1707	-0.0788	-2.4%	*
Rest of UK	3.2495			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	3.1707	-0.0717	-0.0098	-0.0578	-0.0041
England	3.2524	0.0100	0.0011	0.0090	-0.0001
Wales	3.2743	0.0319	-0.0060	0.0209	0.0170
N Ireland	3.1056	-0.1369	0.0092	-0.1490	0.0030
UK	3.2424	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-2.2%	14	81	6	=100%
England	0.3%	11	90	-1	=100%
Wales	1.0%	-19	66	53	=100%
N Ireland	-4.2%	-7	109	-2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.1707	-0.0717	0.0328	2.19	0.03	*
England	3.2524	0.0100	0.0044	2.27	0.02	*
Wales	3.2743	0.0319	0.0491	0.65	0.52	
N Ireland	3.1056	-0.1369	0.0645	2.12	0.03	*
UK	3.2424	0.0000				

* denotes significant differential at the 5% level

Table A18: Emotional skills index

Skill variable: Emotional skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9391	-0.0054	-0.2%	
Rest of UK	2.9445			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.9391	-0.0049	0.0183	-0.0210	-0.0023
England	2.9483	0.0043	-0.0032	0.0078	-0.0002
Wales	2.9311	-0.0130	0.0069	0.0022	-0.0220
N Ireland	2.8377	-0.1063	0.0329	-0.1160	-0.0232
UK	2.9440	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-0.2%	-370	424	46	=100%
England	0.1%	-76	182	-6	=100%
Wales	-0.4%	-53	-17	170	=100%
N Ireland	-3.6%	-31	109	22	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9391	-0.0049	0.0338	0.15	0.88	
England	2.9483	0.0043	0.0045	0.94	0.35	
Wales	2.9311	-0.0130	0.0507	0.26	0.80	
N Ireland	2.8377	-0.1063	0.0666	1.60	0.11	
UK	2.9440	0.0000				

* denotes significant differential at the 5% level

Table A19: Aesthetic skills index

Skill variable: Aesthetic skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6621	0.0235	0.9%	
Rest of UK	2.6386			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.6621	0.0214	0.0104	0.0178	-0.0068
England	2.6489	0.0082	0.0002	0.0082	-0.0002
Wales	2.5353	-0.1054	-0.0263	-0.0490	-0.0301
N Ireland	2.4601	-0.1806	0.0014	-0.1554	-0.0266
UK	2.6407	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	0.8%	49	83	-32	=100%
England	0.3%	2	100	-2	=100%
Wales	-4.0%	25	46	29	=100%
N Ireland	-6.8%	-1	86	15	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6621	0.0214	0.0386	0.55	0.58	
England	2.6489	0.0082	0.0052	1.59	0.11	
Wales	2.5353	-0.1054	0.0579	1.82	0.07	
N Ireland	2.4601	-0.1806	0.0760	2.38	0.02	*
UK	2.6407	0.0000				

* denotes significant differential at the 5% level

Table A20: Management skills index

Skill variable: Management skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.7386	-0.0473	-1.7%	
Rest of UK	2.7859			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	2.7386	-0.0434	0.0065	-0.0380	-0.0119
England	2.7863	0.0043	-0.0011	0.0056	-0.0002
Wales	2.7756	-0.0064	0.0028	0.0286	-0.0378
N Ireland	2.7894	0.0074	0.0125	-0.0427	0.0376
UK	2.7820	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-1.6%	-15	87	28	=100%
England	0.2%	-25	130	-4	=100%
Wales	-0.2%	-44	-447	590	=100%
N Ireland	0.3%	168	-575	507	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.7386	-0.0434	0.0498	0.87	0.38	
England	2.7863	0.0043	0.0061	0.70	0.48	
Wales	2.7756	-0.0064	0.0745	0.09	0.93	
N Ireland	2.7894	0.0074	0.0995	0.07	0.94	
UK	2.7820	0.0000				

* denotes significant differential at the 5% level

Table A21: High level literacy skills

Skill variable: High level literacy skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.3625	-0.0416	-10.3%	*
Rest of UK	0.4041			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.3625	-0.0379	-0.0008	-0.0361	-0.0010
England	0.4032	0.0028	0.0000	0.0029	-0.0001
Wales	0.4437	0.0433	-0.0035	0.0479	-0.0011
N Ireland	0.3700	-0.0304	0.0101	-0.0398	-0.0007
UK	0.4004	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-9.5%	2	95	3	=100%
England	0.7%	-1	104	-3	=100%
Wales	10.8%	-8	111	-3	=100%
N Ireland	-7.6%	-33	131	2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.3625	-0.0379	0.0180	2.11	0.04	*
England	0.4032	0.0028	0.0024	1.14	0.26	
Wales	0.4437	0.0433	0.0270	1.60	0.11	
N Ireland	0.3700	-0.0304	0.0354	0.86	0.39	
UK	0.4004	0.0000				

* denotes significant differential at the 5% level

Table A22: High level physical skills

Skill variable: High level physical skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2586	0.0040	1.6%	
Rest of UK	0.2546			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.2586	0.0036	0.0061	-0.0038	0.0014
England	0.2515	-0.0035	-0.0022	-0.0015	0.0001
Wales	0.3032	0.0482	0.0194	0.0212	0.0076
N Ireland	0.2800	0.0250	0.0195	0.0087	-0.0031
UK	0.2550	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	1.4%	166	-104	38	=100%
England	-1.4%	62	42	-4	=100%
Wales	18.9%	40	44	16	=100%
N Ireland	9.8%	78	35	-12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2586	0.0036	0.0160	0.23	0.82	
England	0.2515	-0.0035	0.0022	1.63	0.10	
Wales	0.3032	0.0482	0.0240	2.01	0.05	*
N Ireland	0.2800	0.0250	0.0315	0.79	0.43	
UK	0.2550	0.0000				

* denotes significant differential at the 5% level

Table A23: High level number skills

Skill variable: High level number skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2312	-0.0441	-16.0%	*
Rest of UK	0.2753			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.2312	-0.0402	-0.0079	-0.0329	0.0006
England	0.2776	0.0063	0.0015	0.0048	0.0000
Wales	0.2331	-0.0382	-0.0100	-0.0531	0.0248
N Ireland	0.2667	-0.0046	-0.0055	-0.0030	0.0038
UK	0.2714	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-14.8%	20	82	-2	=100%
England	2.3%	24	77	0	=100%
Wales	-14.1%	26	139	-65	=100%
N Ireland	-1.7%	119	64	-82	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2312	-0.0402	0.0163	2.46	0.01	*
England	0.2776	0.0063	0.0022	2.86	0.00	*
Wales	0.2331	-0.0382	0.0245	1.56	0.12	
N Ireland	0.2667	-0.0046	0.0322	0.14	0.89	
UK	0.2714	0.0000				

* denotes significant differential at the 5% level

Table A24: High level technical 'know-how'

Skill variable: High level technical 'know-how'

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4291	0.0228	5.6%	
Rest of UK	0.4063			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.4291	0.0208	0.0020	0.0194	-0.0006
England	0.4037	-0.0047	-0.0014	-0.0034	0.0001
Wales	0.4620	0.0537	0.0147	0.0233	0.0157
N Ireland	0.4024	-0.0059	0.0167	-0.0162	-0.0064
UK	0.4083	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	5.1%	9	94	-3	=100%
England	-1.2%	30	72	-3	=100%
Wales	13.2%	27	43	29	=100%
N Ireland	-1.4%	-282	273	109	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4291	0.0208	0.0180	1.15	0.25	
England	0.4037	-0.0047	0.0024	1.93	0.05	
Wales	0.4620	0.0537	0.0271	1.98	0.05	*
N Ireland	0.4024	-0.0059	0.0355	0.17	0.87	
UK	0.4083	0.0000				

* denotes significant differential at the 5% level

Table A25: High level influence skills

Skill variable: High level influence skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2066	-0.0268	-11.5%	
Rest of UK	0.2334			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.2066	-0.0244	-0.0031	-0.0208	-0.0005
England	0.2351	0.0041	0.0005	0.0036	0.0000
Wales	0.2152	-0.0158	-0.0061	-0.0212	0.0115
N Ireland	0.2051	-0.0259	0.0029	-0.0332	0.0044
UK	0.2310	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-10.6%	13	85	2	=100%
England	1.8%	13	87	0	=100%
Wales	-6.8%	39	134	-73	=100%
N Ireland	-11.2%	-11	128	-17	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2066	-0.0244	0.0155	1.58	0.12	
England	0.2351	0.0041	0.0021	1.98	0.05	*
Wales	0.2152	-0.0158	0.0232	0.68	0.50	
N Ireland	0.2051	-0.0259	0.0305	0.85	0.40	
UK	0.2310	0.0000				

* denotes significant differential at the 5% level

Table A26: High level planning skills

Skill variable: High level planning skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6477	-0.0346	-5.1%	
Rest of UK	0.6823			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.6477	-0.0315	-0.0013	-0.0308	0.0006
England	0.6831	0.0039	0.0002	0.0036	0.0001
Wales	0.6786	-0.0006	-0.0049	-0.0092	0.0135
N Ireland	0.6623	-0.0169	0.0068	-0.0274	0.0037
UK	0.6792	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-4.6%	4	98	-2	=100%
England	0.6%	5	92	3	=100%
Wales	-0.1%	787	1461	-2147	=100%
N Ireland	-2.5%	-40	162	-22	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6477	-0.0315	0.0171	1.84	0.07	
England	0.6831	0.0039	0.0023	1.67	0.10	
Wales	0.6786	-0.0006	0.0257	0.02	0.98	
N Ireland	0.6623	-0.0169	0.0338	0.50	0.62	
UK	0.6792	0.0000				

* denotes significant differential at the 5% level

Table A27: High level client communication

Skill variable: High level client communication

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4385	-0.0290	-6.2%	
Rest of UK	0.4675			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.4385	-0.0264	0.0025	-0.0283	-0.0005
England	0.4679	0.0030	0.0003	0.0028	0.0000
Wales	0.4780	0.0131	-0.0084	0.0138	0.0077
N Ireland	0.4344	-0.0305	-0.0041	-0.0087	-0.0176
UK	0.4649	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-5.7%	-9	107	2	=100%
England	0.6%	9	92	-1	=100%
Wales	2.8%	-64	105	59	=100%
N Ireland	-6.6%	14	29	58	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4385	-0.0264	0.0183	1.44	0.15	
England	0.4679	0.0030	0.0025	1.23	0.22	
Wales	0.4780	0.0131	0.0275	0.48	0.63	
N Ireland	0.4344	-0.0305	0.0361	0.84	0.40	
UK	0.4649	0.0000				

* denotes significant differential at the 5% level

Table A28: High level horizontal communication

Skill variable: High level horizontal communication

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7128	-0.0365	-4.9%	*
Rest of UK	0.7493			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.7128	-0.0332	0.0000	-0.0314	-0.0018
England	0.7511	0.0051	-0.0004	0.0056	-0.0001
Wales	0.7391	-0.0070	0.0039	-0.0381	0.0272
N Ireland	0.7048	-0.0412	0.0081	-0.0578	0.0085
UK	0.7461	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-4.4%	0	94	5	=100%
England	0.7%	-8	111	-3	=100%
Wales	-0.9%	-56	545	-389	=100%
N Ireland	-5.5%	-20	140	-21	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7128	-0.0332	0.0160	2.08	0.04	*
England	0.7511	0.0051	0.0021	2.36	0.02	*
Wales	0.7391	-0.0070	0.0240	0.29	0.77	
N Ireland	0.7048	-0.0412	0.0315	1.31	0.19	
UK	0.7461	0.0000				

* denotes significant differential at the 5% level

Table A29: High level problem-solving skills

Skill variable: High level problem-solving skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6398	-0.0274	-4.1%	
Rest of UK	0.6672			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.6398	-0.0249	-0.0028	-0.0172	-0.0050
England	0.6682	0.0035	0.0001	0.0034	0.0000
Wales	0.6708	0.0061	0.0004	-0.0144	0.0201
N Ireland	0.6251	-0.0397	0.0067	-0.0589	0.0126
UK	0.6647	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-3.7%	11	69	20	=100%
England	0.5%	2	99	-1	=100%
Wales	0.9%	6	-237	330	=100%
N Ireland	-6.0%	-17	149	-32	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6398	-0.0249	0.0173	1.44	0.15	
England	0.6682	0.0035	0.0023	1.50	0.13	
Wales	0.6708	0.0061	0.0260	0.23	0.82	
N Ireland	0.6251	-0.0397	0.0341	1.16	0.25	
UK	0.6647	0.0000				

* denotes significant differential at the 5% level

Table A30: High level checking skills

Skill variable: High level checking skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7716	-0.0156	-2.0%	
Rest of UK	0.7872			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.7716	-0.0142	-0.0047	-0.0070	-0.0025
England	0.7873	0.0015	0.0005	0.0009	0.0001
Wales	0.8062	0.0203	-0.0027	0.0088	0.0142
N Ireland	0.7524	-0.0334	0.0032	-0.0393	0.0027
UK	0.7858	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	-1.8%	33	49	18	=100%
England	0.2%	36	60	4	=100%
Wales	2.6%	-13	43	70	=100%
N Ireland	-4.3%	-10	118	-8	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7716	-0.0142	0.0151	0.94	0.35	
England	0.7873	0.0015	0.0020	0.73	0.47	
Wales	0.8062	0.0203	0.0226	0.90	0.37	
N Ireland	0.7524	-0.0334	0.0297	1.13	0.26	
UK	0.7858	0.0000				

* denotes significant differential at the 5% level

Table A31: High level emotional skills

Skill variable: High level emotional skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6562	0.0091	1.4%	
Rest of UK	0.6471			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.6562	0.0084	0.0084	0.0017	-0.0017
England	0.6466	-0.0013	-0.0015	0.0003	0.0000
Wales	0.6831	0.0352	0.0040	0.0525	-0.0214
N Ireland	0.6021	-0.0457	0.0152	-0.0554	-0.0055
UK	0.6479	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	1.3%	100	20	-21	=100%
England	-0.2%	119	-21	2	=100%
Wales	5.4%	11	149	-61	=100%
N Ireland	-7.1%	-33	121	12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6562	0.0084	0.0175	0.48	0.63	
England	0.6466	-0.0013	0.0024	0.55	0.59	
Wales	0.6831	0.0352	0.0263	1.34	0.18	
N Ireland	0.6021	-0.0457	0.0345	1.32	0.19	
UK	0.6479	0.0000				

* denotes significant differential at the 5% level

Table A32: High level aesthetic skills

Skill variable: High level aesthetic skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.5480	0.0306	5.9%	
Rest of UK	0.5174			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.5480	0.0279	0.0040	0.0259	-0.0020
England	0.5198	-0.0003	0.0000	-0.0002	-0.0001
Wales	0.5142	-0.0058	-0.0084	0.0267	-0.0241
N Ireland	0.4388	-0.0813	0.0007	-0.0742	-0.0077
UK	0.5201	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	5.4%	14	93	-7	=100%
England	-0.1%	9	56	34	=100%
Wales	-1.1%	144	-456	412	=100%
N Ireland	-15.6%	-1	91	10	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.5480	0.0279	0.0183	1.52	0.13	
England	0.5198	-0.0003	0.0025	0.12	0.91	
Wales	0.5142	-0.0058	0.0275	0.21	0.83	
N Ireland	0.4388	-0.0813	0.0361	2.25	0.03	*
UK	0.5201	0.0000				

* denotes significant differential at the 5% level

Table A33: High level management skills

Skill variable: High level management skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7964	0.0026	0.3%	
Rest of UK	0.7938			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			industry	utilisation	interaction
Scotland	0.7964	0.0024	0.0023	0.0028	-0.0027
England	0.7929	-0.0012	-0.0001	-0.0011	0.0000
Wales	0.8099	0.0159	-0.0029	0.0219	-0.0030
N Ireland	0.7979	0.0038	-0.0004	0.0006	0.0037
UK	0.7940	0.0000			

	proportionate differential	relative contributions (%)			total
		industry	utilisation	interaction	
Scotland	0.3%	95	118	-113	=100%
England	-0.2%	7	94	-1	=100%
Wales	2.0%	-18	138	-19	=100%
N Ireland	0.5%	-11	15	96	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7964	0.0024	0.0149	0.16	0.87	
England	0.7929	-0.0012	0.0020	0.58	0.56	
Wales	0.8099	0.0159	0.0223	0.71	0.48	
N Ireland	0.7979	0.0038	0.0293	0.13	0.90	
UK	0.7940	0.0000				

* denotes significant differential at the 5% level

ANNEX B: DETAILED DIFFERENTIALS AND DECOMPOSITION BY OCCUPATION

Table B1: Training time index

Skill variable: Training time index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.5571	0.0070	0.3%	
Rest of UK	2.5501			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.5571	0.0064	-0.0062	0.0055	0.0071
England	2.5657	0.0150	0.0034	0.0112	0.0004
Wales	2.2995	-0.2513	-0.0843	-0.1961	0.0291
N Ireland	2.4287	-0.1221	0.0447	-0.1789	0.0121
UK	2.5508	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	0.3%	-98	86	112	=100%
England	0.6%	23	75	3	=100%
Wales	-9.9%	34	78	-12	=100%
N Ireland	-4.8%	-37	147	-10	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.5571	0.0064	0.0969	0.07	0.95	
England	2.5657	0.0150	0.0130	1.15	0.25	
Wales	2.2995	-0.2513	0.1479	1.70	0.09	
N Ireland	2.4287	-0.1221	0.1907	0.64	0.52	
UK	2.5508	0.0000				

* denotes significant differential at the 5% level

Table B2: Learning time index

Skill variable: Learning time index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.7631	0.1147	3.1%	
Rest of UK	3.6484			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	3.7631	0.1044	-0.0062	0.1131	-0.0025
England	3.6524	-0.0063	0.0045	-0.0108	0.0000
Wales	3.6345	-0.0241	-0.0808	0.0469	0.0098
N Ireland	3.5362	-0.1225	0.0010	-0.0920	-0.0314
UK	3.6587	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	2.9%	-6	108	-2	=100%
England	-0.2%	-73	172	0	=100%
Wales	-0.7%	335	-195	-41	=100%
N Ireland	-3.3%	-1	75	26	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.7631	0.1044	0.0695	1.50	0.13	
England	3.6524	-0.0063	0.0093	0.67	0.50	
Wales	3.6345	-0.0241	0.1051	0.23	0.82	
N Ireland	3.5362	-0.1225	0.1366	0.90	0.37	
UK	3.6587	0.0000				

* denotes significant differential at the 5% level

Table B3: Required qualification index

Skill variable: Required qualification index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9875	-0.0900	-4.3%	
Rest of UK	2.0775			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	1.9875	-0.0820	-0.0122	-0.0780	0.0082
England	2.0839	0.0144	0.0057	0.0085	0.0002
Wales	1.8976	-0.1719	-0.0972	-0.1232	0.0485
N Ireland	2.1563	0.0868	0.0087	0.1011	-0.0230
UK	2.0695	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-4.0%	15	95	-10	=100%
England	0.7%	40	59	2	=100%
Wales	-8.3%	57	72	-28	=100%
N Ireland	4.2%	10	116	-27	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9875	-0.0820	0.0597	1.37	0.17	
England	2.0839	0.0144	0.0080	1.80	0.07	
Wales	1.8976	-0.1719	0.0904	1.90	0.06	
N Ireland	2.1563	0.0868	0.1172	0.74	0.46	
UK	2.0695	0.0000				

* denotes significant differential at the 5% level

Table B4: Uses computerised equipment

Skill variable: Uses computerised equipment

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6933	-0.0557	-7.4%	*
Rest of UK	0.7490			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.6933	-0.0507	-0.0111	-0.0383	-0.0013
England	0.7531	0.0091	0.0037	0.0054	0.0000
Wales	0.7058	-0.0382	-0.0416	-0.0011	0.0046
N Ireland	0.6814	-0.0626	-0.0172	-0.0462	0.0007
UK	0.7440	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-6.8%	22	76	3	=100%
England	1.2%	41	59	0	=100%
Wales	-5.1%	109	3	-12	=100%
N Ireland	-8.4%	27	74	-1	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6933	-0.0507	0.0160	3.17	0.00	*
England	0.7531	0.0091	0.0022	4.22	0.00	*
Wales	0.7058	-0.0382	0.0240	1.59	0.11	
N Ireland	0.6814	-0.0626	0.0315	1.99	0.05	*
UK	0.7440	0.0000				

* denotes significant differential at the 5% level

Table B5: Use of computers is essential

Skill variable: Use of computers is essential

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4076	-0.0622	-13.2%	*
Rest of UK	0.4698			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.4076	-0.0567	-0.0132	-0.0463	0.0028
England	0.4737	0.0094	0.0042	0.0051	0.0001
Wales	0.4291	-0.0352	-0.0431	-0.0019	0.0097
N Ireland	0.4080	-0.0562	-0.0217	-0.0342	-0.0004
UK	0.4643	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-12.2%	23	82	-5	=100%
England	2.0%	44	55	1	=100%
Wales	-7.6%	122	5	-28	=100%
N Ireland	-12.1%	39	61	1	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4076	-0.0567	0.0183	3.10	0.00	*
England	0.4737	0.0094	0.0025	3.81	0.00	*
Wales	0.4291	-0.0352	0.0274	1.28	0.20	
N Ireland	0.4080	-0.0562	0.0360	1.56	0.12	
UK	0.4643	0.0000				

* denotes significant differential at the 5% level

Table B6: Complex or advanced computer use

Skill variable: Complex or advanced computer use

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.1738	-0.0421	-19.5%	*
Rest of UK	0.2159			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.1738	-0.0383	-0.0061	-0.0331	0.0009
England	0.2200	0.0079	0.0018	0.0061	0.0000
Wales	0.1735	-0.0386	-0.0180	-0.0268	0.0062
N Ireland	0.1460	-0.0661	-0.0098	-0.0574	0.0011
UK	0.2121	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-18.1%	16	86	-2	=100%
England	3.7%	23	77	0	=100%
Wales	-18.2%	47	69	-16	=100%
N Ireland	-31.2%	15	87	-2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.1738	-0.0383	0.0150	2.55	0.01	*
England	0.2200	0.0079	0.0020	3.91	0.00	*
Wales	0.1735	-0.0386	0.0225	1.72	0.09	
N Ireland	0.1460	-0.0661	0.0295	2.24	0.03	*
UK	0.2121	0.0000				

* denotes significant differential at the 5% level

Table B7: Use of internet important

Skill variable: Use of internet important

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.3607	-0.0596	-14.2%	*
Rest of UK	0.4203			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.3607	-0.0543	-0.0124	-0.0427	0.0008
England	0.4258	0.0108	0.0038	0.0069	0.0001
Wales	0.3446	-0.0704	-0.0420	-0.0378	0.0094
N Ireland	0.3626	-0.0524	-0.0146	-0.0390	0.0012
UK	0.4150	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-13.1%	23	79	-2	=100%
England	2.6%	35	64	0	=100%
Wales	-17.0%	60	54	-13	=100%
N Ireland	-12.6%	28	74	-2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.3607	-0.0543	0.0181	3.00	0.00	*
England	0.4258	0.0108	0.0024	4.43	0.00	*
Wales	0.3446	-0.0704	0.0271	2.60	0.01	*
N Ireland	0.3626	-0.0524	0.0356	1.47	0.14	
UK	0.4150	0.0000				

* denotes significant differential at the 5% level

Table B8: Literacy skills index

Skill variable: Literacy skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.3768	-0.1113	-4.5%	*
Rest of UK	2.4881			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.3768	-0.1014	-0.0182	-0.0785	-0.0047
England	2.4908	0.0127	0.0055	0.0073	-0.0001
Wales	2.5127	0.0346	-0.0716	0.1013	0.0049
N Ireland	2.3522	-0.1259	-0.0010	-0.1215	-0.0034
UK	2.4781	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-4.1%	18	77	5	=100%
England	0.5%	43	57	-1	=100%
Wales	1.4%	-207	293	14	=100%
N Ireland	-5.1%	1	96	3	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.3768	-0.1014	0.0402	2.52	0.01	*
England	2.4908	0.0127	0.0054	2.35	0.02	*
Wales	2.5127	0.0346	0.0602	0.57	0.57	
N Ireland	2.3522	-0.1259	0.0791	1.59	0.11	
UK	2.4781	0.0000				

* denotes significant differential at the 5% level

Table B9: Physical skills index

Skill variable: Physical skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9736	0.1052	5.6%	*
Rest of UK	1.8684			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	1.9736	0.0958	0.0363	0.0664	-0.0069
England	1.8539	-0.0239	-0.0099	-0.0137	-0.0002
Wales	2.0909	0.2132	0.1009	0.1263	-0.0140
N Ireland	1.9867	0.1090	0.0368	0.0848	-0.0127
UK	1.8778	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	5.1%	38	69	-7	=100%
England	-1.3%	42	57	1	=100%
Wales	11.4%	47	59	-7	=100%
N Ireland	5.8%	34	78	-12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9736	0.0958	0.0448	2.14	0.03	*
England	1.8539	-0.0239	0.0060	3.96	0.00	*
Wales	2.0909	0.2132	0.0672	3.17	0.00	*
N Ireland	1.9867	0.1090	0.0883	1.23	0.22	
UK	1.8778	0.0000				

* denotes significant differential at the 5% level

Table B10: Number skills index

Skill variable: Number skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.6959	-0.1750	-9.4%	*
Rest of UK	1.8709			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	1.6959	-0.1594	-0.0164	-0.1387	-0.0043
England	1.8756	0.0203	0.0064	0.0139	0.0000
Wales	1.7929	-0.0624	-0.0771	-0.0121	0.0268
N Ireland	1.8410	-0.0142	-0.0309	0.0065	0.0102
UK	1.8553	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-8.6%	10	87	3	=100%
England	1.1%	32	68	0	=100%
Wales	-3.4%	124	19	-43	=100%
N Ireland	-0.8%	217	-46	-71	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.6959	-0.1594	0.0472	3.38	0.00	*
England	1.8756	0.0203	0.0063	3.21	0.00	*
Wales	1.7929	-0.0624	0.0708	0.88	0.38	
N Ireland	1.8410	-0.0142	0.0930	0.15	0.88	
UK	1.8553	0.0000				

* denotes significant differential at the 5% level

Table B11: Technical 'know-how' index

Skill variable: Technical 'know-how' index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6084	0.0502	2.0%	
Rest of UK	2.5582			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.6084	0.0457	0.0182	0.0347	-0.0072
England	2.5570	-0.0057	-0.0033	-0.0021	-0.0003
Wales	2.6285	0.0658	0.0195	0.0445	0.0017
N Ireland	2.4813	-0.0814	0.0142	-0.0568	-0.0388
UK	2.5627	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	1.8%	40	76	-16	=100%
England	-0.2%	58	37	5	=100%
Wales	2.6%	30	68	3	=100%
N Ireland	-3.2%	-17	70	48	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6084	0.0457	0.0352	1.30	0.19	
England	2.5570	-0.0057	0.0047	1.21	0.23	
Wales	2.6285	0.0658	0.0528	1.25	0.21	
N Ireland	2.4813	-0.0814	0.0693	1.17	0.24	
UK	2.5627	0.0000				

* denotes significant differential at the 5% level

Table B12: Influence skills index

Skill variable: Influence skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	1.9329	-0.1135	-5.5%	*
Rest of UK	2.0464			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	1.9329	-0.1034	-0.0228	-0.0788	-0.0018
England	2.0491	0.0128	0.0065	0.0063	0.0000
Wales	2.0247	-0.0115	-0.0814	0.0650	0.0049
N Ireland	1.9907	-0.0455	-0.0018	-0.0438	0.0001
UK	2.0363	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-5.1%	22	76	2	=100%
England	0.6%	51	49	0	=100%
Wales	-0.6%	706	-563	-43	=100%
N Ireland	-2.2%	4	96	0	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	1.9329	-0.1034	0.0376	2.75	0.01	*
England	2.0491	0.0128	0.0051	2.54	0.01	*
Wales	2.0247	-0.0115	0.0564	0.20	0.84	
N Ireland	1.9907	-0.0455	0.0741	0.61	0.54	
UK	2.0363	0.0000				

* denotes significant differential at the 5% level

Table B13: Planning skills index

Skill variable: Planning skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9610	-0.0996	-3.3%	*
Rest of UK	3.0606			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.9610	-0.0907	-0.0152	-0.0710	-0.0044
England	3.0629	0.0112	0.0044	0.0069	-0.0001
Wales	3.0573	0.0056	-0.0539	0.0560	0.0035
N Ireland	2.9859	-0.0658	-0.0053	-0.0533	-0.0072
UK	3.0517	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-3.0%	17	78	5	=100%
England	0.4%	39	62	-1	=100%
Wales	0.2%	-967	1004	63	=100%
N Ireland	-2.2%	8	81	11	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9610	-0.0907	0.0342	2.65	0.01	*
England	3.0629	0.0112	0.0046	2.44	0.02	*
Wales	3.0573	0.0056	0.0513	0.11	0.91	
N Ireland	2.9859	-0.0658	0.0673	0.98	0.33	
UK	3.0517	0.0000				

* denotes significant differential at the 5% level

Table B14: Client communication index

Skill variable: Client communication index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6123	-0.0624	-2.3%	
Rest of UK	2.6747			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.6123	-0.0569	-0.0148	-0.0406	-0.0015
England	2.6784	0.0093	0.0054	0.0039	-0.0001
Wales	2.6303	-0.0388	-0.0825	0.0421	0.0016
N Ireland	2.6225	-0.0466	0.0067	-0.0419	-0.0114
UK	2.6691	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-2.1%	26	71	3	=100%
England	0.3%	59	42	-1	=100%
Wales	-1.5%	213	-109	-4	=100%
N Ireland	-1.7%	-14	90	24	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6123	-0.0569	0.0345	1.65	0.10	
England	2.6784	0.0093	0.0046	2.01	0.05	*
Wales	2.6303	-0.0388	0.0517	0.75	0.45	
N Ireland	2.6225	-0.0466	0.0679	0.69	0.49	
UK	2.6691	0.0000				

* denotes significant differential at the 5% level

Table B15: Horizontal communication index

Skill variable: Horizontal communication index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.0874	-0.0536	-1.7%	
Rest of UK	3.1410			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	3.0874	-0.0488	-0.0110	-0.0343	-0.0035
England	3.1450	0.0088	0.0032	0.0058	-0.0001
Wales	3.1360	-0.0002	-0.0436	0.0367	0.0067
N Ireland	3.0122	-0.1240	0.0057	-0.1101	-0.0195
UK	3.1362	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-1.6%	23	70	7	=100%
England	0.3%	36	66	-1	=100%
Wales	0.0%	N/A	N/A	N/A	=100%
N Ireland	-4.0%	-5	89	16	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.0874	-0.0488	0.0358	1.36	0.17	
England	3.1450	0.0088	0.0048	1.83	0.07	
Wales	3.1360	-0.0002	0.0537	0.00	1.00	
N Ireland	3.0122	-0.1240	0.0705	1.76	0.08	
UK	3.1362	0.0000				

* denotes significant differential at the 5% level

Table B16: Problem-solving skills index

Skill variable: Problem-solving skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9233	-0.0757	-2.5%	
Rest of UK	2.9990			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.9233	-0.0689	-0.0064	-0.0625	0.0000
England	3.0027	0.0104	0.0025	0.0080	-0.0001
Wales	3.0000	0.0078	-0.0295	0.0285	0.0087
N Ireland	2.8718	-0.1205	-0.0110	-0.0909	-0.0186
UK	2.9922	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-2.3%	9	91	0	=100%
England	0.3%	24	77	-1	=100%
Wales	0.3%	-380	368	112	=100%
N Ireland	-4.0%	9	75	15	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9233	-0.0689	0.0363	1.90	0.06	
England	3.0027	0.0104	0.0049	2.14	0.03	*
Wales	3.0000	0.0078	0.0544	0.14	0.89	
N Ireland	2.8718	-0.1205	0.0715	1.69	0.09	
UK	2.9922	0.0000				

* denotes significant differential at the 5% level

Table B17: Checking skills index

Skill variable: Checking skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	3.1707	-0.0788	-2.4%	*
Rest of UK	3.2495			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	3.1707	-0.0717	-0.0045	-0.0643	-0.0028
England	3.2524	0.0100	0.0019	0.0083	-0.0002
Wales	3.2743	0.0319	-0.0208	0.0431	0.0095
N Ireland	3.1056	-0.1369	-0.0126	-0.1054	-0.0188
UK	3.2424	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-2.2%	6	90	4	=100%
England	0.3%	19	83	-2	=100%
Wales	1.0%	-65	135	30	=100%
N Ireland	-4.2%	9	77	14	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	3.1707	-0.0717	0.0328	2.19	0.03	*
England	3.2524	0.0100	0.0044	2.27	0.02	*
Wales	3.2743	0.0319	0.0491	0.65	0.52	
N Ireland	3.1056	-0.1369	0.0645	2.12	0.03	*
UK	3.2424	0.0000				

* denotes significant differential at the 5% level

Table B18: Emotional skills index

Skill variable: Emotional skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.9391	-0.0054	-0.2%	
Rest of UK	2.9445			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.9391	-0.0049	-0.0101	0.0064	-0.0012
England	2.9483	0.0043	0.0023	0.0022	-0.0002
Wales	2.9311	-0.0130	-0.0374	0.0461	-0.0217
N Ireland	2.8377	-0.1063	0.0227	-0.1333	0.0043
UK	2.9440	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-0.2%	204	-129	25	=100%
England	0.1%	53	52	-4	=100%
Wales	-0.4%	289	-356	167	=100%
N Ireland	-3.6%	-21	125	-4	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.9391	-0.0049	0.0338	0.15	0.88	
England	2.9483	0.0043	0.0045	0.94	0.35	
Wales	2.9311	-0.0130	0.0507	0.26	0.80	
N Ireland	2.8377	-0.1063	0.0666	1.60	0.11	
UK	2.9440	0.0000				

* denotes significant differential at the 5% level

Table B19: Aesthetic skills index

Skill variable: Aesthetic skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.6621	0.0235	0.9%	
Rest of UK	2.6386			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.6621	0.0214	-0.0176	0.0363	0.0026
England	2.6489	0.0082	0.0051	0.0031	0.0000
Wales	2.5353	-0.1054	-0.0722	-0.0335	0.0004
N Ireland	2.4601	-0.1806	0.0100	-0.1814	-0.0092
UK	2.6407	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	0.8%	-82	170	12	=100%
England	0.3%	62	38	0	=100%
Wales	-4.0%	69	32	0	=100%
N Ireland	-6.8%	-6	100	5	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.6621	0.0214	0.0386	0.55	0.58	
England	2.6489	0.0082	0.0052	1.59	0.11	
Wales	2.5353	-0.1054	0.0579	1.82	0.07	
N Ireland	2.4601	-0.1806	0.0760	2.38	0.02	*
UK	2.6407	0.0000				

* denotes significant differential at the 5% level

Table B20: Management skills index

Skill variable: Management skills index

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	2.7386	-0.0473	-1.7%	
Rest of UK	2.7859			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	2.7386	-0.0434	-0.0103	-0.0332	0.0001
England	2.7863	0.0043	0.0030	0.0012	0.0001
Wales	2.7756	-0.0064	-0.0319	0.0272	-0.0017
N Ireland	2.7894	0.0074	-0.0230	0.0067	0.0238
UK	2.7820	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-1.6%	24	76	0	=100%
England	0.2%	71	27	2	=100%
Wales	-0.2%	498	-425	27	=100%
N Ireland	0.3%	-310	90	321	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	2.7386	-0.0434	0.0498	0.87	0.38	
England	2.7863	0.0043	0.0061	0.70	0.48	
Wales	2.7756	-0.0064	0.0745	0.09	0.93	
N Ireland	2.7894	0.0074	0.0995	0.07	0.94	
UK	2.7820	0.0000				

* denotes significant differential at the 5% level

Table B21: High level literacy skills

Skill variable: High level literacy skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.3625	-0.0416	-10.3%	*
Rest of UK	0.4041			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.3625	-0.0379	-0.0064	-0.0287	-0.0028
England	0.4032	0.0028	0.0018	0.0010	-0.0001
Wales	0.4437	0.0433	-0.0216	0.0664	-0.0015
N Ireland	0.3700	-0.0304	-0.0011	-0.0250	-0.0043
UK	0.4004	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-9.5%	17	76	7	=100%
England	0.7%	65	38	-2	=100%
Wales	10.8%	-50	153	-4	=100%
N Ireland	-7.6%	4	82	14	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.3625	-0.0379	0.0180	2.11	0.04	*
England	0.4032	0.0028	0.0024	1.14	0.26	
Wales	0.4437	0.0433	0.0270	1.60	0.11	
N Ireland	0.3700	-0.0304	0.0354	0.86	0.39	
UK	0.4004	0.0000				

* denotes significant differential at the 5% level

Table B22: High level physical skills

Skill variable: High level physical skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2586	0.0040	1.6%	
Rest of UK	0.2546			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.2586	0.0036	0.0099	-0.0042	-0.0021
England	0.2515	-0.0035	-0.0026	-0.0009	-0.0001
Wales	0.3032	0.0482	0.0271	0.0258	-0.0047
N Ireland	0.2800	0.0250	0.0067	0.0214	-0.0030
UK	0.2550	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	1.4%	272	-114	-57	=100%
England	-1.4%	74	24	2	=100%
Wales	18.9%	56	54	-10	=100%
N Ireland	9.8%	27	85	-12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2586	0.0036	0.0160	0.23	0.82	
England	0.2515	-0.0035	0.0022	1.63	0.10	
Wales	0.3032	0.0482	0.0240	2.01	0.05	*
N Ireland	0.2800	0.0250	0.0315	0.79	0.43	
UK	0.2550	0.0000				

* denotes significant differential at the 5% level

Table B23: High level number skills

Skill variable: High level number skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2312	-0.0441	-16.0%	*
Rest of UK	0.2753			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.2312	-0.0402	-0.0046	-0.0356	0.0000
England	0.2776	0.0063	0.0016	0.0046	0.0001
Wales	0.2331	-0.0382	-0.0192	-0.0272	0.0082
N Ireland	0.2667	-0.0046	-0.0072	-0.0018	0.0044
UK	0.2714	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-14.8%	11	89	0	=100%
England	2.3%	26	73	1	=100%
Wales	-14.1%	50	71	-22	=100%
N Ireland	-1.7%	156	39	-95	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2312	-0.0402	0.0163	2.46	0.01	*
England	0.2776	0.0063	0.0022	2.86	0.00	*
Wales	0.2331	-0.0382	0.0245	1.56	0.12	
N Ireland	0.2667	-0.0046	0.0322	0.14	0.89	
UK	0.2714	0.0000				

* denotes significant differential at the 5% level

Table B24: High level technical 'know-how'

Skill variable: High level technical 'know-how'

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4291	0.0228	5.6%	
Rest of UK	0.4063			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.4291	0.0208	0.0098	0.0132	-0.0023
England	0.4037	-0.0047	-0.0021	-0.0026	-0.0001
Wales	0.4620	0.0537	0.0160	0.0352	0.0025
N Ireland	0.4024	-0.0059	0.0077	-0.0027	-0.0109
UK	0.4083	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	5.1%	47	64	-11	=100%
England	-1.2%	44	55	2	=100%
Wales	13.2%	30	66	5	=100%
N Ireland	-1.4%	-130	46	184	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4291	0.0208	0.0180	1.15	0.25	
England	0.4037	-0.0047	0.0024	1.93	0.05	
Wales	0.4620	0.0537	0.0271	1.98	0.05	*
N Ireland	0.4024	-0.0059	0.0355	0.17	0.87	
UK	0.4083	0.0000				

* denotes significant differential at the 5% level

Table B25: High level influence skills

Skill variable: High level influence skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.2066	-0.0268	-11.5%	
Rest of UK	0.2334			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.2066	-0.0244	-0.0073	-0.0183	0.0012
England	0.2351	0.0041	0.0020	0.0021	0.0000
Wales	0.2152	-0.0158	-0.0215	0.0086	-0.0029
N Ireland	0.2051	-0.0259	-0.0052	-0.0227	0.0020
UK	0.2310	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-10.6%	30	75	-5	=100%
England	1.8%	48	51	1	=100%
Wales	-6.8%	136	-54	18	=100%
N Ireland	-11.2%	20	88	-8	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.2066	-0.0244	0.0155	1.58	0.12	
England	0.2351	0.0041	0.0021	1.98	0.05	*
Wales	0.2152	-0.0158	0.0232	0.68	0.50	
N Ireland	0.2051	-0.0259	0.0305	0.85	0.40	
UK	0.2310	0.0000				

* denotes significant differential at the 5% level

Table B26: High level planning skills

Skill variable: High level planning skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6477	-0.0346	-5.1%	
Rest of UK	0.6823			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.6477	-0.0315	-0.0074	-0.0222	-0.0019
England	0.6831	0.0039	0.0021	0.0018	-0.0001
Wales	0.6786	-0.0006	-0.0238	0.0180	0.0053
N Ireland	0.6623	-0.0169	-0.0043	0.0000	-0.0126
UK	0.6792	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-4.6%	23	70	6	=100%
England	0.6%	54	47	-2	=100%
Wales	-0.1%	3788	-2853	-835	=100%
N Ireland	-2.5%	25	0	75	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6477	-0.0315	0.0171	1.84	0.07	
England	0.6831	0.0039	0.0023	1.67	0.10	
Wales	0.6786	-0.0006	0.0257	0.02	0.98	
N Ireland	0.6623	-0.0169	0.0338	0.50	0.62	
UK	0.6792	0.0000				

* denotes significant differential at the 5% level

Table B27: High level client communication

Skill variable: High level client communication

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.4385	-0.0290	-6.2%	
Rest of UK	0.4675			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.4385	-0.0264	-0.0071	-0.0185	-0.0007
England	0.4679	0.0030	0.0024	0.0006	0.0000
Wales	0.4780	0.0131	-0.0328	0.0470	-0.0011
N Ireland	0.4344	-0.0305	-0.0019	-0.0239	-0.0046
UK	0.4649	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-5.7%	27	70	3	=100%
England	0.6%	80	21	-1	=100%
Wales	2.8%	-250	358	-8	=100%
N Ireland	-6.6%	6	79	15	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.4385	-0.0264	0.0183	1.44	0.15	
England	0.4679	0.0030	0.0025	1.23	0.22	
Wales	0.4780	0.0131	0.0275	0.48	0.63	
N Ireland	0.4344	-0.0305	0.0361	0.84	0.40	
UK	0.4649	0.0000				

* denotes significant differential at the 5% level

Table B28: High level horizontal communication

Skill variable: High level horizontal communication

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7128	-0.0365	-4.9%	*
Rest of UK	0.7493			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.7128	-0.0332	-0.0044	-0.0264	-0.0025
England	0.7511	0.0051	0.0012	0.0039	-0.0001
Wales	0.7391	-0.0070	-0.0164	0.0075	0.0020
N Ireland	0.7048	-0.0412	0.0028	-0.0358	-0.0082
UK	0.7461	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-4.4%	13	79	8	=100%
England	0.7%	24	78	-1	=100%
Wales	-0.9%	235	-107	-29	=100%
N Ireland	-5.5%	-7	87	20	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7128	-0.0332	0.0160	2.08	0.04	*
England	0.7511	0.0051	0.0021	2.36	0.02	*
Wales	0.7391	-0.0070	0.0240	0.29	0.77	
N Ireland	0.7048	-0.0412	0.0315	1.31	0.19	
UK	0.7461	0.0000				

* denotes significant differential at the 5% level

Table B29: High level problem-solving skills

Skill variable: High level problem-solving skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6398	-0.0274	-4.1%	
Rest of UK	0.6672			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.6398	-0.0249	-0.0033	-0.0212	-0.0004
England	0.6682	0.0035	0.0010	0.0025	0.0000
Wales	0.6708	0.0061	-0.0110	0.0147	0.0025
N Ireland	0.6251	-0.0397	-0.0051	-0.0299	-0.0047
UK	0.6647	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-3.7%	13	85	2	=100%
England	0.5%	30	71	-1	=100%
Wales	0.9%	-182	241	41	=100%
N Ireland	-6.0%	13	75	12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6398	-0.0249	0.0173	1.44	0.15	
England	0.6682	0.0035	0.0023	1.50	0.13	
Wales	0.6708	0.0061	0.0260	0.23	0.82	
N Ireland	0.6251	-0.0397	0.0341	1.16	0.25	
UK	0.6647	0.0000				

* denotes significant differential at the 5% level

Table B30: High level checking skills

Skill variable: High level checking skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7716	-0.0156	-2.0%	
Rest of UK	0.7872			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.7716	-0.0142	-0.0017	-0.0106	-0.0019
England	0.7873	0.0015	0.0007	0.0008	0.0000
Wales	0.8062	0.0203	-0.0084	0.0216	0.0072
N Ireland	0.7524	-0.0334	-0.0051	-0.0242	-0.0041
UK	0.7858	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	-1.8%	12	75	13	=100%
England	0.2%	51	53	-3	=100%
Wales	2.6%	-41	106	35	=100%
N Ireland	-4.3%	15	72	12	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7716	-0.0142	0.0151	0.94	0.35	
England	0.7873	0.0015	0.0020	0.73	0.47	
Wales	0.8062	0.0203	0.0226	0.90	0.37	
N Ireland	0.7524	-0.0334	0.0297	1.13	0.26	
UK	0.7858	0.0000				

* denotes significant differential at the 5% level

Table B31: High level emotional skills

Skill variable: High level emotional skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.6562	0.0091	1.4%	
Rest of UK	0.6471			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.6562	0.0084	-0.0044	0.0131	-0.0003
England	0.6466	-0.0013	0.0010	-0.0022	-0.0001
Wales	0.6831	0.0352	-0.0165	0.0617	-0.0100
N Ireland	0.6021	-0.0457	0.0101	-0.0566	0.0008
UK	0.6479	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	1.3%	-53	157	-4	=100%
England	-0.2%	-77	171	5	=100%
Wales	5.4%	-47	175	-28	=100%
N Ireland	-7.1%	-22	124	-2	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.6562	0.0084	0.0175	0.48	0.63	
England	0.6466	-0.0013	0.0024	0.55	0.59	
Wales	0.6831	0.0352	0.0263	1.34	0.18	
N Ireland	0.6021	-0.0457	0.0345	1.32	0.19	
UK	0.6479	0.0000				

* denotes significant differential at the 5% level

Table B32: High level aesthetic skills

Skill variable: High level aesthetic skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.5480	0.0306	5.9%	
Rest of UK	0.5174			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.5480	0.0279	-0.0071	0.0358	-0.0008
England	0.5198	-0.0003	0.0020	-0.0023	-0.0001
Wales	0.5142	-0.0058	-0.0278	0.0240	-0.0020
N Ireland	0.4388	-0.0813	0.0031	-0.0813	-0.0031
UK	0.5201	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	5.4%	-26	128	-3	=100%
England	-0.1%	-706	783	23	=100%
Wales	-1.1%	476	-410	34	=100%
N Ireland	-15.6%	-4	100	4	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.5480	0.0279	0.0183	1.52	0.13	
England	0.5198	-0.0003	0.0025	0.12	0.91	
Wales	0.5142	-0.0058	0.0275	0.21	0.83	
N Ireland	0.4388	-0.0813	0.0361	2.25	0.03	*
UK	0.5201	0.0000				

* denotes significant differential at the 5% level

Table B33: High level management skills

Skill variable: High level management skills

1. Skill differential relative to rest of UK:

	mean utilisation	differential	%	sig
Scotland	0.7964	0.0026	0.3%	
Rest of UK	0.7938			

2. Decomposition of skill differential (relative to UK average):

country	mean utilisation	differential	decomposition of differential		
			occupation	utilisation	interaction
Scotland	0.7964	0.0024	0.0022	-0.0021	0.0023
England	0.7929	-0.0012	-0.0008	-0.0004	0.0001
Wales	0.8099	0.0159	0.0103	0.0066	-0.0009
N Ireland	0.7979	0.0038	0.0024	-0.0014	0.0028
UK	0.7940	0.0000			

	proportionate differential	relative contributions (%)			total
		occupation	utilisation	interaction	
Scotland	0.3%	93	-89	96	=100%
England	-0.2%	71	34	-5	=100%
Wales	2.0%	64	41	-6	=100%
N Ireland	0.5%	63	-36	74	=100%

3. Statistical significance of skill differential:

country	mean utilisation	differential	SE	t-ratio	p-value	sig
Scotland	0.7964	0.0024	0.0149	0.16	0.87	
England	0.7929	-0.0012	0.0020	0.58	0.56	
Wales	0.8099	0.0159	0.0223	0.71	0.48	
N Ireland	0.7979	0.0038	0.0293	0.13	0.90	
UK	0.7940	0.0000				

* denotes significant differential at the 5% level

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